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LECTURES
ON
VETERINARY MEDICINE,
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BY
MR. YOUATT.

LECTURE XXX.

PHTHISIS PULMONALIS, OR CONSUMPTION, IN THE HORSE AND CATTLE.

GENTLEMEN,—It is my fate to have to treat to-night of another disease of our domesticated animals not yet admitted into our imperfect nosology, but which is occasionally observed in the horse, and destroys thousands of cattle; I mean phthisis pulmonalis—consumption or decline: usually the consequence of pneumonia or pleurisy, or both combined, but often running its course without any indication of acute inflammation of the thoracic viscera or membranes. I will suppose a case, fortunately not of frequent occurrence. I have a narrow-chested, flat-sided horse. It is attacked by pneumonia or severe catarrhal fever. My experience tells me, that I shall have a great deal more difficulty in subduing the disease in him, than in one deeper in the girth, or rounder in the barrel. The lungs, deficient in bulk to a degree proportionate to the diminished capacity of the chest, have been overworked in supplying the quantity of arterial blood usually expended in the various purposes of secretion, nutrition, and motion; and the animal has evidently been distressed and blown, when an increased current of blood has been required under unusual and violent exertion. The lungs have, therefore, been predisposed to take on inflammatory action; and that inflammation has acquired an intense character under circumstances by which another horse would be scarcely affected.

Symptoms of Consumption.—I will, however, suppose that I have apparently subdued the disease. Do I dismiss him so quickly and so summarily to his work as I should another horse? No, far from it. He has been much emaciated by the disease; he often continues so; his coat stares, and his skin clings to his ribs, and his belly remains tucked up in spite of all my mashes, and carrots, and green meat, and medicine; his life and spirit do not return to him; he is listless; or if he is full of spirit and willing to work, he is easily tired, sweating on the least exertion, and the sweat most profuse about the chest and sides; his appetite does not return, or perhaps it was never good, and the slightest extra-exertion puts him entirely off his feed. I observe him more attentively, and even as he stands quiet in his stall, the flanks heave a little more laboriously than usual, and that heaving is more decidedly quickened when he is in exercise. He coughs now and then—sorely,—and discharges from the nose a mucus tinged with blood, or a fluid decidedly purulent; the breath becomes a little strong, and, by-and-by, very offensive, while the pulse is always above forty, and strangely increased by the slightest exertion.

When many of these symptoms are developed, the animal will exhibit considerable pain on being tapped, or gently struck, on some part of the chest; and then, all at once, the cough will be more frequent and painful—the discharge from the nose more abundant and fœtid—the emaciation, and consequent debility, more rapid, until death closes the scene.

Post-mortem Appearances.—The lesions which are presented after death are very uncertain. Generally there are tubercles; sometimes very minute, at other times large; in different states of softening, some of them having burst into the bronchial passages, and exhibiting abscesses of enormous size. Other portions of the lungs are shrank, flaccid, or indurated,—hepatised,—of a pale or a red-brown colour; and there are occasional adhesions between the pulmonary costal pleuræ.

Symptoms when not connected with Acute Inflammation.—At other times there is no previous disease deserving of notice; but there is cough more or less frequent, dry,

or accompanied by nasal discharge; slight diminution of appetite, and that only apparent after unusual work; want of perfect condition; a degree of listlessness when not at work, but which immediately yields to ardour, scarcely perhaps to be restrained, when the animal is exercised; a little heaving of the flanks, and this only perceptible after exertion: and this will continue for months or even years, without any disease or apparent derangement that interferes with ordinary service and work. At times the horse will rally, the appetite will return, and the condition will improve; but this will last only a little while,—the cough will return from slight or unknown cause, and the listlessness, and want of appetite. Next will appear *hectic fever*, and the malady will run its fatal course.

This is a meagre account, Gentlemen, but it is the best I can give you. Our veterinary authors either mention it not, or bestow only a few lines on the consideration of it. Phthisis is exceedingly difficult to detect at its commencement; it may be confounded with almost every chronic affection of the chest; but in its later stage it is plain enough; and when its symptoms become too manifest to be mistaken, it bids defiance to all medical treatment.

Causes.—Is it *hereditary*? I have not sufficient experience to decide this point which has not yet been mooted among us. One thing only I know, that in the few cases in which I have seen it, the horse has a great deal of daylight under him, and the side has been flat, and the belly tucked up, and the animal has had a great deal more ardour and willingness than physical strength. These conformations, and this disposition, I know to be hereditary, and thus far phthisis may be said to be so too. Of the influence of *climate* I cannot speak. I have no experience on the point. I can satisfactorily trace phthisis to inflammation of the lungs, chronic or acute, and I know that this conformation of which I have been speaking, disposes the horse to inflammation of the chest of the intensest character. I can believe that low and damp situations, or a variable and ungenial climate, may render horses peculiarly susceptible of chest affections; and I do know that all the absurd, or cruel, or accidental causes of pneumonia, may lay the foundation for phthisis, and particularly I know that these causes which tend to debilitate the frame generally render the horse more liable to chest affections, and less able to ward off their fatal consequences. The most numerous instances of phthisis occur in those poor persecuted beasts that are worn out before their time and they are frequent enough among cavalry horses after the deprivations and fatigues of a long campaign.

Treatment.—I quit this unsatisfactory division of my subject for one yet more so, the medical treatment of confirmed phthisis. I have no case of successful treatment in my own experience in confirmed phthisis, and I cannot find one on record. You must be guided by circumstances. If the horse is not very bad, and it is the spring of the year, *a run at grass* will always be useful. Sometimes it will seem to renovate the animal; but the apparent amelioration is too often treacherous. It should always be tried, and the disease may be so far subdued, as more readily to yield to after treatment. The summer having set in, the medicinal effect of the grass ceases, and the effect of the grass ceases, and the flies tease and irritate the horse, and increase the too general irritability of the system. If the patient is taken partially or entirely from work, and submitted to your care, the course you have to pursue is plain enough. Consult the pulse and the membrane of the nose. Is the first quick and hard, and the second too much streaked with red? —*bleed*, but remember that you have not to do with an acute disease, or with a constitution the strength of which is not sapped—your chief dependence here will be on that mode of depletion which I reprobated when speaking of acute disease. The exacerbation of inflammation you must endeavour to subdue, but you must not exhaust a constitution already debilitated. Small bleedings of one or two quarts, cautiously regulated by the pulse and the nasal membrane, and omitted when the one is quieted and the other becomes pale, will be exceeding useful. *Counter-irritants* can never do harm, and these should be in the form of blisters, and not of rowels or setons, for you probably are combatting a disease or disorganisation of the whole or the greater part of the lung, and the counter-irritant should spread as much as possible over the affected part. *Sedative medicines* should be perseveringly administered, and here, as in acute inflammation, our chief dependence will be placed on *digitalis*. Its action on the circulatory system in the horse cannot for a moment be disputed. It should be given in doses of one or two scruples, until a slightly intermittent pulse is produced, and that state of the circulation should be maintained by minuter doses: as a diuretic *nitre* may be added, and the *pulvis antimonialis* as a diaphoretic.

Any *tonics* here? Yes, the tonic effect of mild and nutritious food—green meat of almost every kind—carrots particularly—mashes—now and then a malt-mash. Nothing further than this? You may try, but very cautiously, those tonics, which stimu-

late the digestive system, but comparatively little affect the circulatory one. Small doses of camomile and gentian may be given, but carefully watched and omitted, if the flanks should heave more, or the cough be aggravated. Iron is not admissible in any stage of chest affection, or at least I can truly say that I have rarely given it without repenting that I had done so.

Conclusion.—After all, the treatment of phthisis is a most unsatisfactory subject of consideration as it regards the practice of the veterinarian. If, after the human being has been subjected to medical treatment for a long course of time and at very considerable expense, he so far recovers that life is rendered tolerably comfortable to him, he and his connexions are thankful and satisfied, and he will submit to many a privation to ward off the return of a disease, to which he is conscious there will ever be a strong predisposition; but the case is different with the horse; this, the scope and bound of the human practitioner's hope, is worthless to the veterinarian. His patient must not only live, but must be *sound* again; every energy—every capability must be restored. Can we cause the tubercles of the lungs to be absorbed? Can we disperse or dispel their hepatization? Can we remodel their disorganised structure? Our consideration then will be chiefly directed to the detection of the disease in its earliest state—to the allaying of the irritation which causes or accompanies the growth of the tubercle—the mingled cause and effect—and thus arresting their progress, and by degrees causing them to become foreign, and in some measure harmless bodies, and which the absorbents will in due time remove. This must be the scope and bound of *our* practice—always remembering that the owner should be forewarned of the general hopelessness of the case, and that the continuance of our efforts should be regulated by the wish of the proprietor and the value of the patient.

CONSUMPTION IN COWS.

I now turn to a subject sufficiently unsatisfactory, but connected with which there are some redeeming considerations, arising from the easier and earlier detection of the disease; the removal of some of its exciting causes; and, what is most important of all, the necessity not existing that the animal should be restored to the possession of every pristine energy in order to render her useful and valuable.

Symptoms.—The first symptom is that of which the farmer and the herdsman are so regardless, *cough*. One would think, that dearly-bought experience would convince these people that there are few things more to be dreaded than *hoose* in cattle. I have treated of this in a former lecture. The cough is at first sonorous and clear, and while it continues thus no great harm is done; while the cough is loud and clear the lung is sound enough. But the inflammation, chronic or acute, that produces this cough, is that harmless? It is silently, if not rapidly disorganising the lungs, and the change of the cough will tell the extent of the disorganization. That farmer is wisest who attacks the cough while it is loud and clear; and he next deserves the character of a prudent man, who recognises the first symptom of disorganization; and that is as plain to him who is accustomed to cattle as is the variety of cough in the horse indicating the state of the lungs in that animal. The cough of incipient phthisis is *inward, feeble, painful, hoarse, rattling, gurgling*, and that probably for a considerable period before there begins to be any discharge from the nose or mouth.

Gentlemen, I would urge you to study this peculiar cough of incipient consumption in cattle. There is something almost as peculiar about it as there is in the howl of the rabid dog. There is little or nothing of spasm. It is a painful and not violent pressing out of the air through passages half obstructed. Some good may be done now. The lungs of the cow have not been so sadly used as those of the horse, nor is the process of disorganization so rapid. The golden time is, however, suffered to pass by, because the animal does not seem to lose much flesh, and gives milk as abundantly as before. She was designed to accumulate flesh, and to give milk; and she will continue so to do, and the appetite, by which alone the means of doing this can be accomplished, will continue unimpaired long after local disorganization and mischief have commenced. Besides, she is not hurried beyond her will and her strength by the caprice or cruelty of her owner, and thus the progress of the mischief unnecessarily and rapidly increased. Weeks and months, shall I say years, will pass on, and there will be nothing to indicate the formation of tubercles in the lungs, but the inward, feeble, painful, hoarse, gurgling, cough. Study, it, gentlemen, carefully. It will advise you of the existence of the mischief, while, perhaps, it is remediable; and the accuracy of your prognosis, even although the farmer may not at the moment listen to you, will afterwards materially add to your reputation.

Treatment of early Stage.—You have two ways of saving the animal here. Your bleeding and digitalis may quiet the irritation of the lungs, or at least prevent an exacerbation of the disease; for although in some cases the next steps are, a staring

coat, hide-bound, loss of flesh, and diminution of milk, yet much oftener the progress of the disease is hastened by carelessness or accident. The cow is exposed too soon after calving, or at other times unnecessarily exposed to the vicissitudes of the weather, while she is neglected and half-starved, and she *gets cold*; and the lungs, already irritatable by disease and disorganization, take on inflammation; and that becomes highly intense, and either kills the animal at once or increases and hastens the change of structure in which phthisis consists.

Deceptive Nature of the Disease.—Here let me press on your minds a lesson of caution. You attack this new inflammation promptly and skilfully, and you apparently subdue it. Appetite, condition, a plentiful secretion of milk, return. *Is the cough gone?* the painful, inward, feeble gurgling cough? If that remains there is mischief still, — irretrievable mischief. All you have done stands for nothing, unless you follow up your blow, and drive away the cough as well as the inflammation.

Slow Progress of the Disease.—If you are satisfied with what you have done, or the penurious and illiberal proprietor forbids you to proceed, weeks and months may again pass, and no cause for alarm may appear, because, as I have already said, the lungs of the cow, although irritable enough from the disease, will not be rendered more so by ill-timed or cruel exertion, and the acute diseases of the lungs here are more those of the investing membrane than of the substance; they partake more of pleurisy than of pneumonia. Another attack of acute inflammation may follow, and that again be subdued, until at length symptoms, of which no man can mistake, irretrievable mischief begin to appear. She wastes, more or less rapidly; her hide sticks to her bones; her milk gradually diminishes she becomes evidently weak; yet still she eats, *eats with almost undiminished appetite*: but the process of rumination, requiring long, and now fatiguing action of the jaw, is more slowly performed. Then appears that which accompanies almost every disease of the ox, inflammation of the subcutaneous tissue. On whatever part of the animal you press, she shrinks; and if you press upon the loins, where this circumstance is always most evident, she will not only shrink under your hand, but probably moan with intensity of pain. The cough now becomes even more painful and frequent, and is accompanied by discharge from the mouth or nostrils, of a purulent, or bloody, or fetid character. The offensive smell increases to an almost insupportable degree as the termination of the disease approaches.

Later Symptoms.—When this stage of the disease commences, or through the whole of its progress, diarrhœa often prevails, and that to a degree which the most powerful astringents cannot arrest, and the fæces are, like the other discharges, indicative of the putrid form which the disease is now exhibiting. The end is even not yet, but the animal clings to life with singular tenacity. Hectic fever is now established, distinguished by every symptom except profuse sweating. There is no cutaneous perspiration even now. The skin clings dry and scaly, *it strangely creaks* as the cow crawls staggering along. The discharge from the mouth and nostrils increases and becomes even more fetid, the animal weaker, and, if possible, thinner; and yet she bears up, and eats, and slowly ruminates, and then when the vital power is quite exhausted, and even with the food in her mouth she falls and dies. One circumstance is very remarkable and characteristic. The mind and animal desires even of this comparatively dull and insensible being are roused to an extreme degree of intensity during the progress of this disease. The cow is frequently *almost continually at heat.* When she is impregnated the œstrum goes not off, and the consequence of this continuance of excitement is, that she is exceedingly subject to abortion.

Long before the farmer suspects it, there is a deterioration in the character of the milk, even although the quantity should not be materially diminished. It has an unpleasant taste—it quickly becomes sour—it spoils that with which it is mixed. The butter made from it is ill-flavoured; the cheese will not acquire the proper consistence. Some have said that the milk is of a bluer colour, and that it has abundantly more serum in its composition than ordinary and healthy milk. Some of the puzzling disappointments of the dairyman may be accounted for by the deterioration of the milk from a cow labouring under phthisis.

Post-mortem Appearances.—The first remarkable difference between the lesions presented in the lungs of the ox and the horse after death is the more frequent and complete adhesions, farther illustrative of the fact that in the ox inflammations of the chest are in the great majority of cases those of the pleuræ, and in the horse those of the substance of the lungs. The substance of the lungs, however, is soon affected in the ox, as is the investing membrane in the horse; for there is nearly the same tubercular appearance, but generally less induration or hepatization; if there is any difference, it is that the tubercles in their state of hardness are more concrete than in the horse, and sometimes can scarcely be cut through. The tubercles

here, however, are not confined to the substance of the lungs, but they are scattered over the pleura, both costal and diaphragmatic, and are even found within the duplicatures of the mediastinum. This is still farther illustrative of the difference in the origin of the disease in the two animals. Hydatids are also usually found about the lining membrane of the chest, or numerously and deeply embedded in the substance of the lungs.

Causes. Hereditary Predisposition.—Of one and a very frequent cause of consumption in the cow I can speak with confidence, for I have had opportunities of observing and tracing it, I mean hereditary predisposition. I have rarely known the offspring of a consumptive cow that was not also consumptive. I recollect two dairies that were almost destroyed by this hereditary taint. If it is a heifer-calf, she may possibly live a little after her first calving, but then she usually sickens, and the disease proceeds with a rapidity unknown in the mother. This will be a very powerful reason for our having as little to do with these cases as we can, lest we entail a kind of pest upon our employers. The cow that exhibits the slightest symptom of consumption should be sent to the butcher immediately if she is in tolerable condition, or got into condition as quickly as possible and sold.

Epidemic.—It is often epidemic; or, although the cow may have previously had the seeds of the disease within her, there are certain seasons when they are more rapidly and fatally developed. This is a fact well known to dairymen. While it is especially prevalent in low, moist, woody pastures, it is, even there, of more frequent occurrence, and more fatal in spring and autumn, and when the weather is more than usually cold and changeable.

Change of Climate.—There is a vast deal, likewise, in the cow being suited to the climate, or rather being in her native climate, or one that closely resembles it. This explains the strange difference of opinion with regard to breeds. Every farmer is partial to his own breed, and undervalues those of other districts; and to a very great degree he is right. His cattle breathe their native air; they are in the climate to which, by a slow and sanative process, and extending for many a generation back, their constitution has been in a manner moulded; and it is only after a long seasoning, and a dangerous one too, that the stranger becomes adapted to the temperature and degree of dryness or moisture, and more particularly the soil and difference of herbage in which she is placed. There is more in this than is often dreamed of in the farmer's philosophy.

While there is derangement in every system, the respiratory one seems to suffer most, and a slow, insidious, yet fatal change is there oftenest effected. If a dairy is removed from a moist situation to a dry and colder one, consumption will often appear among the cows, although a dry air is otherwise esteemed a specific against the complaint; but if a dairy of cows are removed from a dry situation to a woody and damp one, phthisis is sure to break out before the first season is past. There is no animal with so much difficulty naturalized in a foreign soil as the cow. I knew a lady who long tried in vain to naturalize the Durham cow in one of the northern counties of Scotland, and she could at last only effect her purpose by admitting one cross from the native breed. They all died of hoose or phthisis.

Mismanagement.—I will not repeat what I have said of the causes of hoose, pneumonia, and pleurisy in cattle. All these diseases will degenerate into phthisis; and the causes which produce them will often produce, or lay the foundation for, consumption, without the intervention of these diseases. Consumption, like these maladies, is principally to be traced to our absurd management of our domesticated quadrupeds, and equally to the strange extremes into which we fall of over-nursing or cruel abandonment.

Swiss Cattle.—Hurtrel d'Arboval, to whom we are indebted for one of the best accounts of this disease that I am acquainted with, and from whom I have derived some useful hints, states a curious fact, that the Swiss cows are not subject to phthisis, although they pass the spring and summer on the mountains, unsheltered, breathing the coolest and purest air; and in the autumn and winter are shut up in close and hot stables, where not a breath of pure air can reach them, except when they are driven daily and far through the snow to water. They, however, who have no upland pasture to which their cattle can be removed, and whose beasts rarely escape from the miserable huts in which they are confined and fed, lose many a cow from phthisis. Habit, and a constitution gradually formed by the influences of these changes on many a generation, had prepared the first for them, or had even rendered them in a manner necessary; but habit could not secure the others from the deleterious effect of empoisoned air, and unwholesome or insufficient food.

Want of Ventilation.—There is one striking fact showing the injurious effect of heated and empoisoned air on the pulmonary system. There are some cow-houses in which the heat is intense, and the animals are in one constant state of perspiration.

The door and the windows must however be sometimes opened, and then the air blows in cold enough upon those who are close to them, and one would think could not fail of being injurious. No such thing; these are the animals that escape; but the others at the farther end, on whom no wind blows, and where no perspiration is checked, are the first to have hoose, inflammation of the lungs, and phthisis.

Treatment.—On the treatment of phthisis in cattle I have little to say, or rather it is comprehended in what I have said of this disease in the horse, with some slight difference, principally confined to the quantity of medicine. Here even more than in the horse appears the necessity of early treatment, and we have here fairer and better scope. We have the slower progress of disorganization, and we have the peculiarity of cough, pointing out the very commencement of it: but then, on the other hand, if we neglect our duty to our employers, or are not permitted to act in time, we have the increased difficulty, or absolute impossibility, of removing a disorganization so slowly formed, and becoming as it were an integrant and inseparable part of the animal. The same medicines, but in smaller doses, afford the best chance of success; but they must be long and perseveringly administered—much more so than in the horse, for the process of morbid growth was slower. Your attention, however, will be most of all directed to the removal of the cause of the disease whatever it may have been. If that which has a tendency to prolong and to aggravate it is taken away, you may have a little better chance; but the original cause, or the deleterious adjuvants continuing to act, you have no chance at all. I cannot point out what steps you must take—you must make yourselves masters of the history of the case, and be guided by circumstances. Let the overfilled cow-houses be enlarged—the close and hot ones better ventilated—let cruel neglect, and exposure, and starvation, yield to more humane and judicious treatment—when cattle are fed on dry meat, let them have sufficient to drink two or three times every day—let those that exhibit decided symptoms of phthisis be removed from the dairy, not that the disease is contagious, but that it is undeniably hereditary—in fine, in a case where generally so little can be done in the way of cure, let nothing be omitted in the way of prevention.

ON THE

AUSCULTATION AND TREATMENT

OF

AFFECTIONS OF THE HEART.

From an Essay read at the late Anniversary Meeting of the HUNTERIAN SOCIETY.

BY DR. BILLING,

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Causes of the Beat and Sounds of the Heart.

UPON applying the ear, or stethoscope, to the chest of a person in health at that point where the heart may usually be seen and felt to pulsate—that is, between the cartilages of the fifth and sixth ribs on the left side, you feel a beat, accompanied by a sound, as if the sound was produced by the blow against the ribs, and immediately after a sound, rather shorter and weaker, appearing more distant, as if produced by the falling back of the body which gave the blow; there is then a pause, rather longer than the time occupied between the first and second sounds. I have elsewhere stated that the beat, or push of the heart, was between the first and second sound, which will be found to be the case, for though the first sound and blow come together, just as when a book or other hard substance is laid against the head, and struck by the hand, yet the push lasts some time,—nearly until the second occurs. Now these phenomena are caused by the ventricles and the valves, for, contrary to the opinion of the immortal Laennec, the auricles have nothing to do with the production of the sounds; the push is caused by the swelling up of the ventricular muscles, in their systole to expel the blood; the first sound is caused by the tension produced in the shutting of the auriculo-ventricular valves, and the second sound is caused by the tension produced in the shutting of the ventriculo-arterial valves. The cause here assigned might be thought inadequate to the production of the sound heard, but the little instrument used by gamekeepers to call partridges, may be heard at least at the distance of a quarter of a mile, though consisting only of a bit of bladder stretched over a thimble, a membranous expansion, which is five or six times less than the valves which act together in the heart, and would give a much louder sound if not surrounded by soft parts. The first sound is loudest and longest; the second sudden, and terminates instantaneously, because the semilunar valves have a regular, defined, attachment, and are smaller than the auriculo-ventricular valves, the attachment of which to the cordæ ten-

dineæ, and their irregular shapes, render the termination of the sound less abrupt. This is a simple, unsophisticated, explanation of the causes of the beat and sounds of the heart, and you will find that the morbid signs are all explicable as alterations of these.

Hypertrophy, with and without Dilatation, and the resulting Bruits.

First, simple hypertrophy of the ventricles produces diminution of the sounds; simple hypertrophy signifying, that their thickness is increased without any dilatation, consequently encroaching on the cavities, by which the auriculo-ventricular valves have less play, and there is less contained blood to act upon them to produce the first sound. The second sound is diminished likewise, on account of the diminished quantity of blood, and there is, besides, less space for the action of the ventriculo-arterial valves. In each case the sound is diminished by the diminution of tension. Now when the hypertrophy is not simple, but the cavity enlarges at the same time, producing enlargement of the heart, that is hypertrophy with dilatation, it is well ascertained that the sounds remain nearly natural, the space being free, until at length, if the cavity become enormously enlarged, the columnæ and cordæ, from the distance of the parietes, draw the auriculo-ventricular valves, so as to prevent their shutting, and then the sound is lost in that ventricle, and instead of it there is heard a "bruit," caused by the regurgitation of the blood into the auricle, and if this be on the right side of the heart, you may at the same time have a pulse in the jugular vein; for though the right auricle, under ordinary circumstances, is not able to distend the veins, so as to render their valves useless, yet, when the tricuspid valve is imperfect, either permanently, or only temporarily, so, under extra action, the force of the ventricle causes a reflux, visible in the jugular vein, and then the passage being once forced, the auricle also is able to produce a pulsation in the vein; so that you have this jugular pulsation twice for each pulse at the wrist, once for the reflux from the auricle, and once for the regurgitation from the ventricle, as in the case of the old woman alluded to in Spittal (pages 87 and 105).

In this case he appears to think that the auricle pulsated twice for each pulsation of the ventricle, but if the old woman ever dies, it will be found that the auriculo-ventricular valve was rendered imperfect on excitement, either by dilatation of the ventricle, or perhaps by some alteration of its own structure, as there was bruit de soufflet between the sixth and seventh ribs, or both causes combined; and I am pretty certain, that the pulse being exactly doubled by exertion, depended on the aortic valves being ossified, or otherwise imperfect to a certain extent, so that the ventricle not being empty on account of regurgitation, the auricular systole, as well as the ventricular, caused a pulse at the wrist. This I have several times found to be the case, when the aortic valves were not capable of closing, on account of disease; and in a certain stage of the disease, the valves are just in such a state as to prevent regurgitation under gentle action of the heart, but when excitation takes place, they either do not close in time, from rigidity, or give way by retroversion of their edges.

Now when the ventricle is moderately dilated, without being hypertrophied, we find that the sound of the auriculo-ventricular valves is increased, for they are more on the stretch, there being a larger space; and, besides, when there is dilatation, there is a concomitant laxity of the carneæ columnæ, allowing the valves to flap to more suddenly, and the sound becomes short, like that of the semilunar valves. The valves not having been hitherto considered as the cause of the natural sounds, the influence of the carneæ columnæ in modifying them has not usually been estimated, though this will account for one of the unnatural sounds which takes place in the perfectly formed heart, when under the nervous excitation called palpitation, as in hysteria, &c., in which cases the carneæ columnæ, partaking of the convulsive action of the ventricle, keep the auriculo-ventricular valves open, and the consequence is, a regurgitation at each systole, which causes the sound called bruit de soufflet, instead of obscuring the natural valvular sound, and causing distress in the breathing, on account of the regurgitation on the lungs, and a feeling of syncope, on account of there not being a sufficiency of blood sent to the brain, which effect is also dependent upon the too rapid action not allowing time for the ventricle to fill. I have seen a person faint from this cause after running very quickly, though his heart and lungs were sound. This effect is produced even more strongly, when there is hypertrophy and dilatation of the ventricle, in which case, upon the excitation of exercise, &c., the distress of the lungs and bruit de soufflet are augmented, and besides, when the enlargement is great, the disproportion of the ventricular cavity to the aorta causes a ripple and bruit.

Percussion is not available for diagnosis, until enlargement is far advanced, and then there is more or less dulness of sound, as also when there exists much hydrops pericardii, in which case, in addition to the

dulness on percussion, there is a joggling sensation when the cheek is applied for the purpose of immediate auscultation.

Bruits from various other Causes.

We thus find that various alterations of the sounds of the valves, dependent on other circumstances, take place, though they remain perfect in their structure, and we have now to consider the *bruit* which occurs in consequence of alteration of the valves themselves, and must recollect, that there may be natural sound of the right side, whilst the left has an unnatural bruit, and *vice versa*. If there be bruit accompanying or masking the first sound, it may be either from the auriculo-ventricular valve being incapable of closing, from ossification, &c., or from rigidity and irregularity of the semilunar valves causing a ripple, though they be still capable of closing; if the fault be in the auriculo-ventricular, the bruit will be heard most in the præcordial region; if in the semilunar valves, in the anterior superior.

If there be bruit accompanying or masking the second sound, it may be from regurgitation from the semilunar valves, in consequence of ossification preventing their closing; or of vegetations which make their edges turn back, so as not to hold the blood; or from rupture from various causes; or from aneurismal dilatation of the aorta, so great, that the valve cannot fill up the opening. If ossification be the cause, it is most likely there will be a bruit accompanying or masking both sounds, the first bruit from roughness, the second from regurgitation. There may be also a bruit rather after, than with, the second sound; and in this case the first sound will be generally weak, as this happens when the auriculo-ventricular opening is so contracted, that a ripple is caused by the filling of the ventricle from the auricle.

There may be bruit accompanying both sounds, from the co-existence of two of the foregoing causes, in which case these causes may be discoverable by the positions in which they are heard, as already stated; or there may be bruit accompanying or masking both sounds, from permanent rigidity and contraction of one opening only, either auriculo-ventricular, or ventriculo-arterial; the particular opening being discoverable according as the bruit is heard most above or below, right or left, besides which, almost always there will be coexistent hypertrophy or dilatation, which must be taken into consideration.

Causes of Hypertrophy and Dilatation.

Hypertrophy arises in various ways,—1st. The simplest, from mere over-action, as the muscles of any part enlarge by extra use, so that mere continued nervous palpitation will induce a degree of hypertrophy; 2dly, Over action, with inflammation, such as the excited pulse, with metastasis of rheumatic inflammation to the pericardium and fibrous tissue of the heart, or from common cold, pericarditis arising alone, or in conjunction with pleurisy. In both cases very frequently lymph is thrown out, and adhesions are formed, productive of most serious consequences, and hitherto most commonly fatal, though now more amenable to remedies from being better understood. Of course, when there is the inflammatory congested state of vessels, or hyperæmia of inflammation, the enlargement will go on much more rapidly than from mere over-exercise. Though the treatment of pleurisy and of pericarditis in the recent acute stage must be so similar, that diagnosis appears of little consequence at that time, yet it is very necessary on account of the after treatment, for a patient who has had pericarditis, must be kept much longer quiet, to avoid the risk of hypertrophy. From what experience I have had of these cases hitherto, I have formed the opinion, that the pulse is a great assistant in the diagnosis; in pleurisy it is hard and tense, whereas in pericarditis it is looser, more throbbing or jerking, more approaching to that of acute rheumatism, as it is also in cases when inflammation is communicated to the heart along the vessels, either after operations, or wounds received in dissecting, &c. 3dly, Hypertrophy arises from imperfection of valves, and, as just remarked, this will be more or less rapid in proportion to the superaddition or absence of inflammation. Thus ossification of valves, by causing obstruction, calls for over-action; also when ossification prevents valves from shutting, the cavity behind the valve is constantly overloaded by regurgitation, and must be over-worked. Now if this non-closure be the consequence of a rupture of the valve from some strain or violent exertion, there will most likely be an inflammatory action set up by the injury, and these are often serious cases and rapidly fatal. The cases, too, connected with vegetations of the valves causing their edges to turn over, are more or less rapid as the accompanying inflammation is acute or chronic. There may be, also, congenital faults of the valves, either as to contraction of the openings or deficiency of shutting.

Dilatation arises from similar causes to hypertrophy, the dilatation taking place in proportion to the debility of constitution, or the degree of inflammation, which latter, when acute, always softens the structures in which it exists; when there is only a little inflammation, so as to produce hyperæmia without much softening, hypertrophy and

dilatation go on together; on the contrary, where much debility exists, dilatation almost alone.

The force of the beat, or impulsion of the heart, is a measure of hypertrophy; thus, in the natural state, the heart strikes the end of the stethoscope or the side of the head, but has not power to raise it, but, according to the degree of hypertrophy, pushes the head away from the chest, the word "impulsion" not being used to express the beat until it has a morbid force. Dilatation, on the contrary, gives a broader slap, but weaker. Combining the two, then, when there is proportioned enlargement, viz. hypertrophy with dilatation, the beat is felt, according to the hypertrophy, stronger; according to the dilatation, over a greater extent than natural; and it must be remembered in calculating the hypertrophy, to make allowance for debility from disease; or if the patient have been taking sedative or contra-stimulant medicines, such as antimony, digitalis, &c., which mask the hypertrophy.

Aneurism in the Chest.

With respect to the diagnosis of aneurism in the chest, I do not think I can add any remark, except that the signs are of rather a negative quality, its existence being inferred by the expert auscultator, rather when he finds symptoms which do not belong exclusively to affections of the heart alone. I have to make one observation in defence of Laennec, which is, that he is right in saying there is but single impulsion in simple aneurism of the aorta, for this is the fact, unless the aortic valves be imperfect, in which case the contraction of the auricle may be felt, as before described, and there is really double pulsation, the weakest pulse from the auricle coming first; but that deceptive jarring shock, or back stroke, given sometimes to the aneurismal tumour upon the diastole of the ventricle, follows the impulsion at the moment that the auricle and ventricle are both quiescent.

Treatment.—Rest—Depletion—Tonics—Mercury—Digitalis—Opium—Elaterium.

I cannot be expected in this brief space of time to enter into minute details of practice, but I must give a general outline of what I have proved to be beneficial, in the numerous cases which occur in a large hospital. In the first place it is hardly necessary to state, that absolute rest is indispensable, the only inconvenience of which is, the loss of tone to the system, and injury to the digestive organs which so often ensues, and which must be guarded against by regular attention to the stomach and bowels, without active purging, except whilst there is acute inflammation going on. Depletion is frequently necessary, but all depletion has a tendency to increase nervous excitability, which is in itself a cause of hypertrophy. Depletion must be used with judgment and circumspection, and a free use of tartar emetic will be found a most powerful means of keeping down inflammation, with less expenditure of blood. In order to guard against nervous palpitation, and to preserve the tone of the system under a want of exercise, tonics are necessary in every stage, and this I know to be a safe and useful practice, notwithstanding the common opinion that tonics are heating, which I can fully disprove, though the patient will be heated of course, if whilst inflammation exists the bowels be neglected, or the abstraction of blood, and other antiphlogistic means be omitted. Mercury, though so indiscriminately used, requires caution, as the hardness of the pulse which it sometimes produces, might overbalance the known beneficial effect of it on the capillary system. I find the greatest benefit from the use of digitalis, not in such doses as to oppress the circulation, or stomach, or head, but just enough to make the heart a little lazy, by which the tendency to hypertrophy is combated, and I am satisfied by cases which there is not time now to relate, that the size of the heart may be actually reduced. I scarcely ever use crude opium, or the tincture, in these cases, as being stimulant, but sometimes the liq. opii sedat. as an anodyne and hypnotic, which is at the same time sedative instead of stimulant. In advanced cases when dropsy has come on, and the heart has become languid, as evinced by the irregularity of the pulse, I do not recommend digitalis, well knowing that sudden death occurs in that stage sometimes from syncope, but in these cases elaterium is an invaluable mode of relief, and instead of producing exhaustion, by the great quantity of liquid which it brings away, it takes off the oppression by evacuating the redundant serum, there is no acrimony or irritating property exerted by this medicine, whilst there is fluid to come away; the action of it is specific and peculiar, and produces no more injury by the weeping which it causes from the exhalant capillaries of the intestines, than an onion does when it produces a flow of tears from the eyes, but to do good it must be repeated frequently, and when the patient feels how much benefit he derives from it, in comparison of any inconvenience from nausea, &c. he will willingly persevere in its use.

ESSAYS
ON
ANIMAL ACTION.

By WILLIAM DOBSON, *Esq.*, *Surgeon.*

No. IV.

ON THE DIAPHRAGM.

THE diaphragm is a muscular septum between the chest and the abdomen. It consists of two muscles which arise from the circumference of the base of the thorax, and radiate to a central point,—the cordiform tendon,—leaving perforations in their course, by the separation and decussation of their fibres, for the passage of vessels, the foramina being surrounded by tendinous structures. The vascularity of the diaphragm is high, as is evidenced by its deepred colour. The nerves which supply this organ are the *dorsal* and the *phrenics*. The dorsal nerves are a few branches, given off by the 10th, 11th, and 12th dorsal trunks, which take their origins by two roots, one from the anterior, the other from the posterior, column of the spinal marrow. There can therefore be no difficulty in arriving at the conclusion as to the actual influences of the dorsal nerves on the diaphragm. They will endow that organ with common sensation, and bring it under the influence of volition. By means of these nerves we are made acquainted with any physical aberration in the diaphragm, and they are, in part, the media by which we can retard or accelerate its operations at pleasure. By their agency the action of the diaphragm can be preserved for a short period after both phrenics are divided; but the duration of their effectiveness is very limited.

The physiology of the phrenic nerves is exceedingly imperfect; and we are divested of one important and very essential mean in the inquiry,—that is, strict and positive analogy. Yet demonstration is available.

Let us first investigate the anatomy of these nerves. They are described as arising from the 3rd, 4th, and 5th cervical nerves; and Sir C. Bell has endeavoured to establish that the branches thus derived, are continued onwards to a tract of nervous matter on the side of the spinal marrow, situated between the corpus olivare and corpus restiforme, from which other nerves connected with the respiratory apparatus originate. That this *may* be the case no one will deny, but that it is *not* the case, has been much questioned. I have endeavoured to determine the point, but unsuccessfully; and if the origin of nerves be the *only* basis on which we are to erect theories of function, we shall often be bewildered in our own perplexities. If this be taken as the only foundation, and without the support of correlative evidence, we need not be surprised at the existence of those ephemeral doctrines which are taught but to please.

I am induced to believe that the conjunction of the phrenic nerves with the cervical, exists for the purpose of establishing that kind of communication between the voluntary and involuntary organs which is observed with the sympathetics; and also that the physical connexions of the right phrenic, with the corresponding semilunar ganglion of the sympathetic and the hepatic plexus, are destined to allow of a reciprocal functional influence. So that when the mind is disturbed, either by physical or by moral causes, the organic operations necessarily participate, and *vice versa*. Certain facts might be adduced corroborative of this position, but they will be more appropriately introduced hereafter. The office of the diaphragm is obviously to enlarge the thoracic cavity in a vertical direction, and this it accomplishes efficiently.

During the quiescent state of the diaphragm, we notice that it is concave towards the abdomen, and convex towards the chest; and it is observed that the first change which this organ undergoes, is the descent of the *centres* of the lateral portions, until it has assumed a plane surface. But immediately the organ has arrived at its acme of descension, it returns to its situation in the chest. While the lateral portions of the diaphragm are undergoing this vibratory motion, the cordiform tendon is nearly stationary, for it is so intimately attached by its superior surface to the pericardial bag, as to prohibit any mobility. If the hand be applied to the muscular portion of the diaphragm, when it is descending into the abdomen, in inspiration, it is found to be firm and rigid, and exceedingly resistible; but in its ascent those qualities are lost. In inspiration, the base of the chest is protruded outwards, and as we developed in the preceding essay the total inefficiency of the intercostal muscles to produce this phenomena under ordinary circumstances, we are led to search for the cause elsewhere. It appears to me not improbable, that the expansion of the base of the chest in regular breathing is effected by the attempt of the rigid fibres of the diaphragm to arrive at a plain surface, and that when these fibres become relaxed, as during expiration, the chest recovers its natural state. Full expansion of the chest is observable only in early life. In old age, as we have previously noticed, the osseous boundaries become so consolidated, as almost to preclude this effect. Only the lower part of the chest is moved.

We have adverted to the descension of the diaphragm into the abdominal ca-

vity, and its ascension into the chest, but we have a problem to solve, more difficult than a description of mechanical movements,—a problem beyond the ken of human perception. The eye cannot see, nor can the finger feel, nor can reason demonstrate, that inscrutable agent which occasions the motions of the diaphragm. We may as well search for the immediate cause of the power which propels the earth in its orbit, which directs the varied motions of the planetary bodies, and for the agent which connects universal nature together. He who has reflected on the subject of animal action must confess, that the *agent* which impels the diaphragm to constant motion, is concealed from his senses, and that human research, however extensive, will never discover its nature.

In the continuation of this subject, we shall inquire whether respiration be a voluntary or an involuntary operation, and endeavour to reconcile the conflicting opinions which prevail.

WRITINGS

AND PROFESSIONAL ACQUIREMENTS OF

DR. HOME, OF EDINBURGH.

To the Editor of THE LANCET.

SIR,—On perusing your LANCET of this date, I noticed the following passage, in a letter addressed to you by Dr. Epps, of Berners-street. "Dr. Home of Edinburgh, who, though not esteemed an authority in matters relating to the practice of physic, is a very good authority in reference to materia medica, states that he has found benefits from the use of this medicine in nervous affections."

Sir, I had the advantage of studying the profession under that able man, and had better opportunities of knowing his merits, and the weight due to his opinions in practice, than, probably, Dr. Epps ever had. I have long ago come to conclusions very different from those of Dr. Epps on this point, and know no physician in ancient or modern times, whose opinions may be more confidently relied upon as founded in close and accurate observation of the symptoms of disease, by a mind never influenced by previous theories, and far above the trick and quackery of writing for notoriety and not for the sake of truth.

I should ill, therefore, repay the benefits that I have derived from the writings and instructions of Dr. Home, if I allowed an opinion so unjust and unfounded as that of Dr. Epps to pass unnoticed.

But, fortunately, Sir, the materials to decide this question are abundant, and easily accessible. Let me be permitted to point out to Dr. Epps where they exist. In the first place, Dr. Home was one of the very few physicians who in modern times has had the honour of pointing out to the medical world the existence of a new, a distinct, a dangerous, and common form of disease, which *up to his time* had escaped the observations of *all* other medical men, although it must have existed since the days of Adam. That disease was the CROUP, of which he is the undoubted discoverer, and first describer. Then there are certain works of Dr. Home relating to the practice of physic to be met with in every medical library, with the exception I presume of Dr. Epps's. There is a book called *Medical Facts*, there is another called *Clinical Histories and Experiments*, both of them containing information on practice in disease, of the most important and instructive nature. Then there is another book, even better known than the above, called *Principia Medicina*, not only containing all the information known at the time when it was published, on the subject of practice, but written in more choice and classical Latin than is to be found in *any* medical work since the days of Celsus up to the present time. I suppose that Dr. Epps cannot know that this work is used in many of the foreign universities as the text-book for the practice of physic, and that it will continue as a standard work in the art, long after the names of Dr. Epps and the individual who has the honour of now addressing you are forgotten. When I add, that in addition to the above, Dr. Home's *Analysis of certain mineral waters*, was most ably conducted, considering the state of chemical knowledge at that time—that his *Treatise on bleaching* caused an entire revolution in that art in Scotland, and that his *Treatise on agriculture and its principles*, even now, is a standard work in that department, you cannot feel surprised at my appealing from the judgment of Dr. Epps, to facts, and the opinion of the profession in general.

I cannot conclude without calling your attention to Dr. Epps's paragraphs one of which appears to me not a little inconsistent and ridiculous. Dr. Epps begins the paragraph by appealing from the authority of Dr. Home on point of practice, and finishes by quoting him as an authority on —what do you think, Mr. Editor,—why, on a point of practice. Dr. Epps will hardly maintain seriously, I presume, that the knowledge of the value of certain means of removing disease, is not a point of practice? His own letter is a letter on materia medica, but Dr. Home's opinion, which he quotes, is an opinion upon a point of practice. I have the honour to remain, Sir, your obedient servant, M. D.

May 12th, 1832.

ST. THOMAS'S HOSPITAL.

CLINICAL LECTURE

BY

JOHN ELLIOTSON, M.D., F.R.S.,

PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE

IN THE UNIVERSITY OF LONDON,

Delivered March 19th, 1832.

DISEASES AND SOUNDS OF THE HEART—DR. HOPKINS' CASE.

I was speaking, Gentlemen, the other day, of the peculiar sound heard when an obstacle exists at certain openings of the heart, and I mentioned that it was the opinion of Laennec that the ventricles empty themselves first, and that immediately afterwards the auricles empty themselves.

Now Laennec supposes this to arise from a contraction of the auricles as well as of the ventricles, and I mentioned that this statement was at present called in question, for it was said that Haller and others ascertained that the auricles may be observed to contract before the ventricles, and that recent observation has confirmed their statements. But I mentioned that however this might be, it appeared to stand to reason that the moment the ventricles dilate, the blood must rush into their vacuum. Whether that is owing to a *contraction* at all of the auricles or not, is another question; but it does appear that when the left ventricle after contraction is dilated again, the blood must instantly rush in from the auricle. I believe I mentioned that the muscular part of the auricles is small, and forms a sort of appendage only, and therefore I believe that the proper auricles do not influence much the course of the blood—that they merely empty themselves from time to time, and that the great sinus of the auricle is emptied by the vacuum formed by the ventricle. I allow that I have seen the auricle contract before the ventricle. But I have seen it contract after the ventricle, and I have seen it contract several times to one contraction of the ventricle, so that there appeared in the experiment I witnessed very little connexion between the contraction of the auricles and the ventricles, and I am convinced that the auricles are emptied by the vacuum formed when the ventricles are dilated. I have always been able to make an accurate diagnosis by following the opinion of Laennec—not as to whether the auricles empty themselves by contraction or not, but as to the time at which this takes place—as to the time at which he says the blood quits the auricles and enters the ventricles.

There was in The Lancet of last week (March 17th) an account of the post-mortem examination of Dr. Hopkins, abroad, who was formerly a lecturer at Mr. Grainger's. This gentleman is said to have exhibited, on inspection after death, the following appearances:—"The left auriculo-ventricular opening of the heart,"—that is, the opening between the left ventricle and the left auricle, where the mitral valve is situated—"was ossified in its whole circumference for about three lines in breadth." I presume that means that there was a ring of bone around the commencement or base of the mitral valve, three lines in breadth. "This morbid deviation which had its seat in the internal membrane, extended into the tricuspid valves,"—(That must be a mistake, because the tricuspid valves are on the other side of the house. It must have extended into the curtains of the mitral valve)—"and produced a singular contraction in the osteum." I presume it is meant, that, besides the ring of bone, the whole root of the mitral valve was changed, and a small opening was left in the centre. The rest of the description relative to the heart is unimportant. It is also stated that there was "great degeneration of the substance of the liver. Its body was considerably augmented, and yet its inferior margin hardly extended below the edge of the hypochondrium." There was therefore great disease of the liver and of the heart, and the disease of the heart stated here, was disease of the mitral valve. It is not said whether the left ventricle was hypertrophied or not—dilated or not; neither whether the auricle behind the obstructed opening was dilated. I do not know when Dr. Hopkins died, but the account is dated the 1st of February.

Now Dr. Hopkins applied to me last July, and here is the note which I then made of his case. I saw him on the 1st of July, and the symptoms were these:—"Dyspepsia; lies badly on the left side, and best on his back; pulse 88; dull sound, which is natural over the region of the heart, very extensive." (By this I mean, more extensive than it should be), "very loud sound in the region of, and at the action of, the left auricle." By that I mean a very loud sound, not on percussion, but on the left half of the cardiac region, that is to say, the region of the left auricle. "This sound is heard after the action of the left ventricle." Immediately after the ventricle has acted, and at the same moment as the loud sound above, in the lower region of the left ventricle, and the lower part of that region, was a sound loud like a drum, in double or triple succession. It was a very curious

sound, and I never met with such an instance before. It was just like the roll of a drum. After the left ventricle had struck the side, there was a second heard, which consisted of three or four hollow sounds, all distinct, exactly like a roll on a drum. Sometimes I heard two and sometimes three sounds, just like the roll of a drum; and if I listened with the naked ear, not the stethoscope, then the sound was heard, only like a double sawing sound. Then came a pause, and then the ventricle beat again.

Now this took place immediately after the pulse, immediately after the action of the ventricles, and after death there was found disease of the mitral valve. The diagnosis I gave was, "disease of the mitral valve or," I added, "retrocession of the blood through the aortic valve;" because the blood will sometimes rush back into the ventricle. If the valves do not perform their duty thoroughly, then a part of the blood rushes back, and of course it rushes back the moment the ventricle dilates, and therefore it is often not easy to say whether the mitral valve is forming an obstruction to the blood rushing into the ventricles or an aortic valve is so diseased that the blood rushes back through it. It appears from the dissection that the noise I heard arose from disease and obstruction of the mitral valve, therefore it is clear, that the blood rushes through the mitral valve immediately after the ventricle dilates; therefore that the blood of the auricle runs into the ventricle immediately after the pulse at the wrist; therefore that Laennec is correct as to the time at which this takes place, only he is wrong in saying, that it arises from a contraction of the auricle; for it appears most probable that it arises from merely the passage of the blood from the auricle into the ventricle. I also added, "I presume there is great dilatation of the left auricle and hypertrophy of the left ventricle." But nothing more is said in the account of the autopsy. What, however, is said is this:—"great disease of the mitral valve and the liver." On seeing him a month afterwards, I found the same symptoms, and therefore I said the diagnosis was confirmed. I then found, in addition, that great enlargement of the liver had taken place. Subsequently, I have no doubt, that disease of the liver had taken place, which, when I first saw him, was not sufficient to give any sign to the hand. The organ was neither enlarged nor indurated, but on my second interview with him, I said that there were two diseases—disease of the heart, and disease of the liver; and no doubt the disease of the heart existed first, because that was evident when I first saw him. It is further said in the account in The Lancet, "the lesion of the heart appeared to me to be the original disorder, and to which ought to be referred successively all the subsequent derangements." After I saw him he was a great deal worse. The ossification had increased, the diminution of the opening was greatly increased, and changes took place, amounting at last to general dropsy. When I saw him there was only œdema of the legs, but before it seems he died there was general dropsy. I regretted very much, when I heard that he was going abroad, that I should not have an opportunity of verifying the statement I had made on the grounds of Laennec's doctrine, but the dissection has confirmed the accuracy of my remarks.

ADVANTAGES OF AUSCULTATION IN CASES OF VOMITING OF BLOOD.

Respecting the cases that have left us, either by death or removal, since the last lecture, I will first relate that of a man who died suddenly, or *rather* suddenly, in William's ward. This case is useful, as pointing out the assistance of the ear in discharges of blood from internal parts. George Bally, aged 38, was admitted on the 8th of March, and said that he had been ill only from the previous Thursday, that is to say, a week; but he had complained of cough for three months. He said that he was seized with a violent vomiting of blood of a dark colour, which was mixed with the food he had taken, and that his stools also were of a very dark colour. Now from this account it would have appeared, that his disease was hæmatemesis, vomiting of blood.

The mode of distinguishing between the source of the blood that is discharged upwards, as to whether it comes from the stomach or the lungs, is threefold. In the first place, you make your distinction from the blood itself; in the next place, from the seat of disturbance of function; and, thirdly, from the union of the blood with the substance with which the function of the part has to do.

Now respecting the blood itself, if it come from the air passages, it cannot be retained long, and therefore is discharged almost immediately; in general almost as soon as it is poured into the bronchial tubes. Irritation is excited by its presence, which induces cough, and it is thus brought up.

If the blood is, as is usually the case, arterial, it comes up of a florid colour. Perhaps I am not right in saying arterial, because the mixture of air may give it exactly the arterial colour; however, it is not allowed to remain stationary there, and whether it was arterial originally or venous, from being in contact with air not being able to collect itself in a mass, it is thrown up

at once, and therefore of a bright colour. If it be effused into the stomach, whether itis arterial or not, it is frequently allowed to remain there in a mass, and will coagulate, and even if it was arterial, from remaining in a mass, it will of course become black. You know, that if two ligatures be passed round an artery, the blood between them being at rest, will become as black as venous blood. It becomes black from the want of coming into contact with oxygen.

But it may be that the blood in hemorrhage from the stomach is of a venous character. That, however, is not proved, for if it be of an arterial character, still from being allowed to remain in the stomach it becomes very black. On this account I do not conceive that because the blood is bright in hæmoptysis it is proved to be arterial, and that because it is black in hæmatemesis it is necessarily venous. In the one case the parts are so irritable and so small, that it cannot collect into a mass, but is presently thrown up, and is in contact with oxygen; while in the other, it may be collected into a considerable mass, and is no longer in contact with oxygen. It is a general rule, that the blood in hæmoptysis is of a bright scarlet, and in hæmatemesis, that it is black. I say a *general rule*, not a universal rule.

The next means of diagnosis is to observe with what substance the blood is mixed, whether with the substance with which the function of the lungs has to do, or the substance with which the function of the stomach has to do. Now the substance with which the function of the lungs has to do is air, therefore when blood is thrown up from the lungs, it is generally frothy, and when thrown up from the stomach, if anything has been taken into that organ, it is generally mixed with food, and thus we have the second means of diagnosis. We may also see it *frequently* mixed with the fæces—not *always*.

Then the next point is to observe which function is disturbed, whether the function of the lungs or of the stomach. Now if it be the function of the lungs, you may expect a sensation of heat all over the front of the chest. You may expect some expectoration besides blood, and you will likewise expect that there will be something wrong when you listen to the chest. When it comes from the stomach you may expect that there will be uneasiness in the region of the stomach, and vomiting or nausea. When there is no vomiting, the blood comes up from the stomach without any serious effort, with an effort hardly amounting to vomiting, you may still find the patient complain of nausea. So, when the blood from hæmoptysis is poured up, you generally find cough, but not always.

Now there was considerable difficulty in making a diagnosis in the case of this man. When he came in I did not see the blood, and therefore I could not judge of the character of the blood as to whether it was black or florid, or mixed with food or air. You might suppose that it is very easy to learn all this from the patient himself, but amongst the lower classes people are very frequently quite incapable of giving any account whatever of their disorders. This man made it appear that he had discharged his blood from the stomach, because he said it was black, that it came up in considerable quantities, and that it was mixed with food, and that it had appeared in the fæces. On the second day he gave a different account. He said that it came up with a cough, and that it was mixed with froth. In this dilemma, being unable to gain information from him, I listened to the chest, and thought I found sonorous rattle of the bronchiæ, showing that the lungs were in a state of disease—that is to say, that there was irritation of the bronchial membrane. There was likewise mucous rattle, showing, in all probability, that there was some little blood there, or a great secretion of mucus. At any rate the sonorous and mucous rattle showed, with regard to the functions of the lungs, that there was something wrong in the bronchial membrane, that there was either inflammation present, or fluid there which ought not to be; or, indeed, there might be both.

Treatment.—I therefore, on finding sonorous and mucous rattle, made up my mind that it was hæmoptysis, and administered lead, because nothing is so good in the way of medicine as superacetate of lead. Cold ablution likewise is particularly useful. With respect to the lungs there is nothing to be compared with lead, and with respect to the alimentary canal there is nothing to be compared with oil of turpentine. As I made up my mind that it was hæmoptysis, I ordered two grains of superacetate of lead every four hours, and put him on slops.

The day following, his pulse being full, I had him bled to twelve ounces, and he had no more hemorrhage, and went on very well till he grew dull, stupid, and comatose. A blister was applied to the back of the neck in the first instance, and he had twenty ounces of blood taken from that part, and two grains of calomel were given him every three hours, because I was afraid that effusion was taking place into the brain. Nothing was more likely than that blood had been effused, that there was the same hemorrhagic disposition existing in the head that had appeared in the trunk, and into which blood had been poured forth. I was afraid that there was an effusion of serum, but I said that I should

not be surprised if an effusion of blood took place. It is common in many of these cases to give opium with the lead, and some persons make it a rule to do so, but I do not. This man took two grains of superacetate of lead every four hours, and it gave him no pain in the bowels. It did not disagree at all with him, and the hemorrhage ceased. He had nothing more of it before he died. Had I given him opium, I should have been uncomfortable when the coma came on. I should have been tempted to ascribe it to the opium, and when he died I should have been vexed, and blamed myself as having been partly the cause of it, by giving him opium. But he had taken none. He became more and more comatose, and whether people brought him drams, it is impossible for me to say. Leeches were applied to the temples, and a cold wash to the head, but the stupor increased, the pupils became motionless, and the pulse small and quick. The man was obstinate, and refused food and medicine, and everything that was given him, and on the 15th, at three o'clock, he was seized with a fit of coughing, brought up a little blood, and expired.

Now on opening him we found blood in the bronchiæ and stomach, and some, I believe, in the intestines. In the bronchiæ was a quantity of black clotted blood. Having been so exceedingly comatose when he died, I presume there was less sensibility of the bronchial membrane than natural, so that the blood did not cause cough, and thereby lead to its expectoration. It is also to be taken into account, that he died very quickly. Now the blood could not have got there, of course, from the stomach. If he had vomited blood, it is not likely that any quantity would have gone down the bronchiæ, but we found a considerable quantity not only in the divisions of the trachea, but in the small branches of the bronchiæ.

The blood in the stomach was mixed with air, and it appeared to be blood which had been swallowed; I will not say that it was, but it is quite clear that that is no argument against its having come from the lungs, because from lying in the stomach after death, though it had been arterial before, it would become black. It looked as though it had been swallowed, and it is a much more easy thing for blood coming from the bronchiæ to be swallowed, than for blood coming from the stomach to find its way down the bronchiæ; I should therefore conclude, especially as I heard sonorous and mucous rattle, that this all had come from the bronchiæ, but that a part had escaped from the stomach.

The account of the dissection is this:—The trachea and bronchial tubes were filled with blood; there was also a considerable quantity in the duodenum; but there was no organic disease. On opening the head, a serous effusion was seen under the membranes of the brain, both at their surface and their base, and some little deposition of lymph. There was considerable effusion into the ventricles.

The particular interest of this case consists in its pointing out the use of the ear in doubtful cases of this description; where you hardly know whether the function of the lungs is disturbed or not. It enables you to refer the source of the blood to the lungs, and not to any other part.

CHOREA.

Another case to which I will direct your attention, briefly, is that of a girl in Mary's Ward. She came in with chorea; she was about ten or twelve years of age. There was nothing peculiar in the case. It was a common instance of the disease, but it is useful, as showing what I have always found,—that in this affection there generally is no disturbance of any function of the head or the abdomen:—that there is no pain in the head, no giddiness, no drowsiness; nothing that would lead you to suppose affection of the head, except the chorea itself. This may be an affection of the spinal marrow and head, but there is no affection of the head, such as drowsiness, giddiness, weight or pain in the head; neither is there any affection of the abdomen. The bowels of this patient were as regular as those of other people; her tongue was clean, and her appetite was good. This is what I most frequently observe in cases of this disease.

Treatment.—She was put on the carbonate of iron, a medicine which I always employ, because I am anxious to go on with it till I meet with a case of failure,—a thing which I have never yet done, except where the disease was local, or occurred in an adult, in either of which instances I have always failed. She took two drachms every eight hours, and after a time, as she did not go on so quickly as I could wish, the dose was increased to half an ounce, when she rapidly improved, and presently went out perfectly well.

HYSTERIA.

The next case is that of a young woman named Catherine Sullivan, who came in with hysteria, which was marked by a want of colour, and by a deficiency of the catamenia. She was sixteen years of age, and said she had been ill fourteen weeks. She said that sometimes she had palpitation and a difficulty of breathing, increased on exercise; but on listening to her heart, there was no more violent action of one part than of another, no great impulse of the left ven-

tricle only, but a generally increased action, —no preternatural sound,—nothing but palpitation, such as we are all liable to, if we walk quickly. When that is the case, you have no right to infer organic disease. At least there is no reason for asserting that there is organic disease. There was œdema of the lower extremities, pain of the head, and the catamenia were irregular. This appeared to be a state connected with deficient excitement of the system, deficient formation of blood.

Treatment.—In these cases occurring in young women, iron is one of the best remedies, and she took a drachm of the tartrate three times a day. She was admitted on the 9th of February, and began this treatment on the 10th. On the 14th, as her bowels were relaxed, there was added a drachm of the carbonate to the tartrate, and she continued taking a drachm of each three times a day. When you see deficient menstruation attended by paleness of the body, the case is not one for merely stimulating the womb, but one in which the whole system together requires invigorating. It is quite vain to stimulate the womb when there is too little or too poor blood in the system. The best way, then, is to strengthen the whole system, and if the uterus then does not perform its functions, to give additional stimulants to that particular part. Under this treatment, persevered in, she gained colour in a great degree, the palpitation became less, and the menses appeared on the 14th March. She had been ill fourteen weeks, but I do not know that the catamenia had been deficient all the time. They had, however, been irregular and scanty. There was also in this case a sensation of choking, so that altogether it might be called hysteria connected with general debility and a deficiency of menstruation.

HYSTERIA, WITH EXTREME TENDERNESS OF THE BODY.—DECEPTIONS OF HYSTERIC PATIENTS.

There have been several cases of hysteria admitted lately, many of them accompanied by the extraordinary circumstance of tenderness of the surface of the body,—exquisite tenderness, influenced by such pressure as could not affect peritonitis or pleuritis,—such gentle pressure as can affect nothing but the skin, and the substance immediately subjacent to it. I have seen this mistaken over and over again for inflammation of the peritoneum, and persons have been bled, cupped, starved, blistered, and confined to bed, all to no purpose. I believe the chief mode of distinguishing these cases is from the absence of general disturbance,—emaciation, foulness of the tongue, quickness of the pulse, and the usual symptoms that you have in chronic peritonitis, which complaint of course weakens the system excessively. The tenderness, too, in these cases, is increased by the very slightest pressure that can be made, and while it is increased by such slight pressure, the general disturbance of the system is not at all commensurate with it. When there is peritonitis you have extreme tenderness, such as will not admit of the pressure of the bedclothes, but there is a general disturbance of the whole system, quickness of pulse, a sinking of the patient, every symptom indicative of a dangerous state; but here there is not.

One of the best modes of getting rid of this affection, is to give iron. It is one of the things that will give way to iron generally. Sometimes there is vomiting, but in most cases there is not. You may observe, too, that in hysteria it is a very common case for the mind to be affected: there is a disposition to artfulness. In these disorders females are really ill, but they have, I am confident, a morbid state of the mind, a disposition to make themselves appear worse than they really are. Sometimes they will tell you that they have this, that, and the other symptom, which they have not. It is just the same in the case of young ladies. I have known young ladies, who have had the best education, in the enjoyment of every possible comfort in the world, with nothing whatever to plague them, who, notwithstanding, have in hysteria deceived their friends and their medical attendants by all sorts of tricks. From the observations that I have been able to make, I am sure they are ill, but they will pretend that many things exist which do not, and pretend that they are unable to do things that they can do; and this I am sure is a morbid state of mind—a part of the disease.

When you have cases of this description in the hospital, you are by no means certain that it is not an attempt to deceive you simply for the purpose of getting into the hospital. You will recollect that there was a woman here lately, who contrived to present blood which she said she had spit up. Now it was blood of a brown colour; it was not of a fine red hue, neither was it black, but it was of a brown colour, and such as is continually presented where there is reason to disbelieve that it has been expectorated or vomited. It is generally mixed with a considerable quantity of thin fluid and saliva, as though it had been sucked by the mouth. She was clearly in a hysterical condition; she had a great number of hysterical symptoms; but there was the blood, and the question was where it came from. I examined, as well as I could, the state of the

chest, but I was unable to satisfy myself that it came from that part. I also examined, as well as I could, the abdomen, but I was still equally unsuccessful in satisfying myself as to that origin of the fluid. I stated, indeed, that I could not say whence it came. I would neither call it hæmoptysis nor hæmatemesis, but I said we would wait patiently until we could clearly ascertain its source. Before my second visit, Dr. Davison found this lady in possession of a lancet, with which it appeared she pricked her gums, and she then sucked them, and presented the blood. I believe a paragraph has appeared in some of the newspapers stating, that we were all deceived in this case, that the girl was not only an impostor, but that she practised her imposition successfully. Now that account is perfectly incorrect, for we never pretended to know the origin of the blood. We could not, as I have already stated, allow that it was hæmoptysis, neither could we allow it to be hæmatemesis, but said nothing about it, having determined to wait and see whence it came; and so doing, we discovered it to be a trick.

There is a patient now in the hospital spitting blood, which exhibits the same appearance. She has had extreme sensibility of the chest and abdomen, but by taking iron the affection has left the former situation, and is confined to the latter. I may mention that she used the shower-bath, and had there been much chronic inflammation, it would most likely have done her injury, which it did not. Now this girl shows blood in the same way, and I dare say that if she have not a lancet, she procures the fluid by suction.

Both these ladies, I think, have some sort of depraved desire, for each of them was found to have a catheter in bed. The first patient had no reason to use it, for I believe her urine passed freely; but still a catheter was found there, though it was a very small thing compared with some articles that have been found under similar circumstances, and she showed a strong desire to secrete it. The other girl, who is now in the hospital, and who spits forth blood, pretends to require the catheter, not for the vagina, but for the urethra, and asserts that she cannot pass her water without it. The instrument has been taken from her, and her water is regularly drawn off twice a day; but it is very likely that this is all a pretence, and that she can pass her water if she pleases, without the aid of an instrument.*

* This turned out to be the fact, and the young woman now not only passes her urine freely, but has lost her tenderness nearly entirely, under the use of large doses of iron and a cold shower-bath twice a day, though, before her admission, she had in vain been cupped and starved.—Rec. L.

PROPAGATION OF THE CHOLERA.

LETTER FROM DR. JAMES JOHNSON.

To the Editor of THE LANCET.

I CAN assure your "Correspondent" that it is neither my wish nor my interest to misrepresent either men or books; nor has it been my practice, as a journalist, except by inadvertence. Some allowance is to be made for the hurry of a debate, and for the inaccuracy or misapprehension of reporters. Thus in the report in question I am made to deny, that I ever advocated "contingent contagion," though I never ceased to advocate that doctrine. What I denied was, the having changed my opinions. A hasty perusal of the article in THE LANCET, on the evening of the discussion, impressed me with the idea that the writer of that article had greatly modified, if not altered, his opinions respecting the propagation of cholera, and a reperusal has only tended to show me, that it would probably have been more correct to say, that "in the opinion of THE LANCET, cholera has changed its character relative to the mode of propagation, since it left Newcastle."* The writer maintains that up to the above period, it travelled "step by step, and with all the characters of a disease still *essentially* contagious." But subsequent facts and successive irruptions of the disease in distant and unconnected localities, have induced the writer to acknowledge that "the statistics of cholera have undergone the most complete alteration." "These facts," observes the writer, "prove that *infection* is no longer the *essential* cause, and even tend to indicate that, for a time, its operation may be materially suspended." The above passages led me to conclude, that the writer had changed or greatly modified his opinions, though perhaps my mode of expression was too strong, but certainly not designed to misrepresent the meaning of the passage.

Before closing this note, I would ask the writer of the article, what better proof is

* Had Dr. Johnson here said, "the indications of its character of propagation," &c., he would have more accurately described our statements and opinions. We repeat, that up to the time when cholera reached Newcastle, every step in its progress indicated the march of an essentially contagious disease. On the other hand, since that time its many-leagued jumps as plainly point to the probable operation of another cause. We also willingly admit that the evidence supplied by the Haddington, Kirkintilloch, and Paris irruptions, materially operates against the conclusions deducible from the statistics of the disease up to the time when it reached Newcastle. We repeat our opinion, however, that no reasoning being, unendowed with the spirit of genuine prophecy, could come to any other conclusions than those we drew from the premises supplied us at each successive period of our debating this subject.—ED. L.

there of the *introduction* of cholera into Sunderland from Hamburgh than from Newcastle into Haddington? What better evidence have we that the contagious germ crossed the ocean from the continent to England, than from Haddington to Kirkintilloch, or any other distant locality? One thing is now clear, that, since the disease has come under our own observation, it has either lost its *essentially* contagious character, or more rigid scrutiny has divested it of a character which it may not have possessed, notwithstanding the imposing accounts, and the progressive statistics, of the epidemic. A cholera report is now hardly published without some remote and isolated spot exhibiting the disease, while all attempts to trace its footsteps, so visible (as is said) on the continent, are here given up by almost universal consent.

Among the various appellations by which the *nova pestis* has been described, it is strange that no one has christened it "CHOLERA SALTANS" or the leaping cholera; for no disease has shown such a propensity for hopping from one town or county to another, without touching those places over which it leaped. There is reason to believe that cholera is changing its character in more respects than one. In Paris they have three kinds of cholera, one of which is the *red-hot* cholera, as contradistinguished from the "cold-blue." In Dublin it appears, by a recent communication, that "the malady has decidedly altered its type since first introduced. Not one patient in thirty has it now in the original form." Its more general form on the banks of the Liffey is that of fever, with cramps, and gastro-enteric irritation. These changes in the disease itself, may enable us all, with less *inconsistency* than is seen in higher quarters, to modify our opinions on the score of *expediency*, where we are unwilling to attribute such changes to conviction. I am, Sir, yours, &c.

JAMES JOHNSON.

Suffolk-place, 15th May, 1832.

A Treatise on the Injuries, the Diseases, and the Distortions of the Spine, founded on an Essay to which the Jacksonian Prize for the year 1826 *was adjudged by the Royal College of Surgeons.* By R. A. STAFFORD, M. R. C. S., &c. London, Longman, 1832. 8vo. pp. 302.

THE numerous and important affections resulting from disease of the spinal marrow, of its membranes, or of the bony canal by which this portion of the nervous system is enclosed, have long engaged the serious attention of practical men. Amongst English authors who have written most fully on diseases of the vertebræ and spinal marrow, we may enumerate Earle (Sir John), Macartney, Baynton, Copeland, Ward, Shaw, and Boyle, while the excellent treatise of Ollivier* shows that our continental neighbours have pursued the subject with equal attention.

The treatise now before us, is an addition, though not a voluminous one, to the works on this branch of human maladies,—a plain practical comment on the most important disease of the spine; not a lengthened disquisition, full of historical details, but confined entirely to such points as are most likely to require the attention of the surgeon at the bed-side of the patient. The several affections which the volume embraces are illustrated by numerous cases, the value of which is considerably enhanced by accurate accounts of post-mortem appearances. We sincerely wish that more of our modern authors would imitate the example of Mr. Stafford in this respect, and so substitute important facts, for ill-concocted and groundless theories.

The arrangement of the subject-matter in this work is good. Congenital diseases of the spine are first treated of; next its injuries, comprising concussion, fractures, and dislocations; then diseases of the vertebræ; and, finally, diseases of the medulla spinalis and its membranes. We do not propose to follow Mr. Stafford through the whole of this arrangement, which necessarily contains much with which medical men are familiar, but shall confine our observations to some extremely well-illustrated points.

Of the malformations which arise from imperfect development of the medulla spinalis, or the vertebral column, the chief is that denominated *Spina Bifida*, a congenital disease consisting in a deficiency of the spinous processes, or the rings of the vertebræ. In consequence of this deficiency, a pouch or tumour is formed at some part of the back corresponding with the preternatural opening, and consisting, usually, of the membranes of the medulla, distended by the fluid contained in the canal, which is secreted in increased quantity. The

* Traite de la Moelle Epiniere.

shape and size of the tumour will depend on the form and magnitude of the original malformation of the bones, and it may present itself at any point of the spinal canal, from the cervical portion to the sacrum. The termination of this formidable disease is almost invariably fatal, whether left to itself, or opposed by the skill of the surgeon. The period of time at which death supervenes is, however, very uncertain. Sometimes the tumour bursts during parturition, in other cases life may be prolonged for a great number of years. The author quotes an instance where the individual was in his 22nd year; but the most remarkable example, we believe, on record, may be found in Frank, who describes a patient as being seized with mania, and dying with spina bifida in his 54th year.

The changes of structure which the membranes undergo during the progress of the disease are described by the author to be,

"- - - generally, inflammation, enlargement, stretching, and thickening; and the different degrees of these alterations depend upon the different degrees of activity of the disease. In those cases where the tumour fills rapidly and bursts, or where the infant dies soon after birth, we find only inflammation with enlargement; but when the fluid contained in it accumulates slowly, and the infant lives for some months, or longer, then the parietes are observed to be thickened, without much inflammation. The integuments and skin are liable to undergo those changes which are common to all other parts of the body. Thus, for instance, they are sometimes inflamed, sometimes ulcerated, and sometimes gangrenous; which arises from their great distention."

It is not the least curious circumstance in the history of nervous diseases and malformations, that many affections of the central nervous system proceed to an extraordinary extent without producing any of those symptoms which usually accompany lesion of this delicate tissue. The arrangement of the nerves, in the particular malformation of which we now speak, is very well described by Mr. Stafford. We do not know of any other work in which this part of the subject is so well handled.

"In spina bifida it appears that either part or all the filaments which form the posterior spinal nerves, corresponding to the solution of continuity of the vertebral canal, are distributed upon the internal walls of the tumour, and that they generally terminate there. These arise from the cord in various ways; sometimes only by single filaments, which pass out of the aperture of the canal through the fluid contained in the tumour, unattached to anything until they arrive at its parietes, where they are dispersed. Sometimes again the posterior spinal nerves come out of the opening in the canal, and instead of going straight through the fluid, pass round the internal surface of the tumour, and thus form a network of nervous filaments. In other cases there arises a kind of peduncle in the middle of the tumour, of a nervous mass, resembling a mushroom, of which the stalk is formed of filaments of nerves bound together by cellular tissue, and the head by their extremities spread out and ending upon the upper and internal surface of the tumour.

"The posterior spinal nerves, which are distributed upon the internal walls of the tumour, do not always pass through the aperture connected with the vertebral canal; but sometimes they pierce as it were the tumour, and then distribute themselves on the internal surface. Sometimes again we find that the whole of the medulla is brought out of its course through the aperture of the canal, and that it completely ends in the tumour, leaving the canal below quite hollow.

"The medulla spinalis also in spina bifida, at the part where the malformation of the canal occurs, becomes changed in its structure in various ways; sometimes it has been found inflamed—sometimes not so large as natural—and sometimes of a firmer consistence; sometimes, again, it has been rendered completely soft—and at other times has been found altogether deficient."

It might be imagined from the extensive changes here described, that spina bifida is always accompanied by a paralytic state of the lower extremities, but experience shows that so far from being paralytic the child frequently remains stout and healthy. Frank, to whom we have already alluded, relates the case of a female child affected with spina bifida, who had perfect motion of the lower extremities, though the bladder and rectum were paralyzed. Perhaps we might attempt to explain this variety in the symptoms by reference to a fact established by modern physiologists,—that the functions of the nervous system are not disturbed when an alteration takes place by means of the gradual pressure of a fluid not producing change of structure. Thus in some cases of spina bifida, the nerves composing the cauda equina may be merely unravelled by the

fluid, and preserve, intact, their functions, with their original structure.

The formidable nature of this disease baffled the skill of ancient surgeons, who only used palliative measures. It remained for the original mind of the late Mr. Abernethy to propose a successful method of cure,—a method which has since been adopted by surgeons with the greatest advantage. Mr. Abernethy introduced two methods,—compression and puncture. At first he proposed the application of gentle pressure on the tumour, from the commencement, with the intention of giving that support to the dura mater which it had lost from its deficiency of bony covering, and at the same time of producing, if possible, the absorption of the fluid. The other method, or radical cure, consists in frequently puncturing the tumour, making gentle pressure upon it, and healing up the wound. Numerous trials have shown that this practice affords the only chance of a permanent cure, and that it has, in many instances, been attended with complete success.

"The mode in which the consolidation takes place, in the radical cure of spina bifida, is probably as follows:—That as the fluid contained in the tumour diminishes in quantity, the skin and the membranes composing the walls of the tumour become thickened and contracted; adhesive lymph is thrown out from the internal surface of the tumour, which becomes organized also, and so the cavity of the tumour is in progress of time closed up."

The possibility of a spontaneous cure of spina bifida has been much doubted by all preceding writers; but Mr. Stafford brings forward a case which shows that nature is sufficient for the cure of this formidable disease, and that she uses means exactly similar to those proposed by Abernethy, and practised by Cooper. The case is altogether so interesting that we shall extract it entire:—

"Alfred Seymour Church, æt. two years and three months. There is situated on the lower part of the back, over the inferior lumbar vertebræ and superior portion of the sacrum, a tumour of firm consistence and of rather unequal surface, about the size of half an orange; it is moveable, and of a darker colour than the adjacent integuments: when pressed upon or moved, the fæces are instantly evacuated. The spine, above the tumour, is slightly curved outwards; the inferior extremities are singularly deformed, and can be twisted almost in any direction: the flesh is flabby.

"This case is perhaps the most remarkable that ever occurred of spina bifida, as it combines in it almost all the facts of importance that have ever been recorded, both by the ancients as well as the moderns: first, as to the immense size of the tumour; secondly, as to its combinations: there was hydrocephalus of great magnitude—deformed limbs—deficiency of the nates, with imperforate anus, and diminished nervous power; thirdly, as to the progress of ossification of the vertebræ: the rings were not only defective, but the bodies also, and the intestines could be seen through the tumour which communicated with them, as the fæces were evacuated through it; fourthly, as to the subsidence of the hydrocephalus when the tumour sloughed off—the possibility of which fact has been doubted; fifthly, as to the reason suggested by the mother for the origin of the disease; sixthly, as to the spontaneous cure—another fact hardly credited; and seventhly, as to its present state and the age of the patient."

The chapters on the injuries of the spine contain a plain statement of facts without communicating anything very new or very interesting. The summary of morbid appearances in those who die from concussion of the spine, is worth transferring to our pages:—

"The parts exterior to the osseous canal are much contused, and sometimes blood is found extravasated in the cellular membrane. The membranes of the medulla spinalis are in a high state of vascularity, opposite to the point where the blow took place, and occasionally one or more of them are ruptured. There is also more or less blood, either coagulated or not, between the dura mater and osseous canal, the dura mater and arachnoid membrane, the arachnoid membrane and pia mater, and sometimes between all at the same time. When the patient dies immediately after the accident, the medulla spinalis is generally of its natural colour and texture, but now and then it is rather redder, and if minutely examined through a magnifying-glass, the capillaries ramifying upon it may be seen injected with blood. When the death of the patient has been delayed, it is not uncommon to find it of a yellowish red colour, and of a softer consistence, and in some cases where there has been much inflammation, it is rendered into a more fluid state at the part where the concussion took place. Occasionally it is observed that the inflammation of the injured portion has extended itself along its

own substance to the brain, as well as along its membranes, to those of that organ, and in this case there is a quantity of fluid found in the vertebral canal."

With this extract we shall close the present notice, adding, that after a careful perusal of the work, we consider it deserving our recommendation to the profession.

The Dublin Journal of Medical and Chemical Science. May, 1832.

(Concluded from our last.)

CASE OF DISEASED HEART.—BRUIT DE SOUFFLET.

The article which follows the papers noticed in our last number is entitled, "A case of diseased heart, accompanied by Angina Pectoris, exemplifying the effects of the Hydrosulphuret of Ammonia." By Andrew Newton, Esq. Though rather tediously detailed, the paper is not devoid of interest. The following incidental remarks on the "bruit de soufflet" are of considerable value.

"On applying the stethoscope over the region of the heart, the head was elevated by each cardiac impulse. The pulsations were irregular and intermitting. A very loud bruit de soufflet was heard, resembling the sound produced by a spinning-wheel whilst in rapid motion; this sound accompanied both the auricular and the ventricular contractions, it was more marked at the left than at the right side, but was distinctly audible over the entire chest; the respiratory murmur was everywhere natural, but feeble, and marked by the bruit. On examining the carotid, by means of the stethoscope, a loud and very distinct bruit was heard, differing however in character from that which existed at the heart, it was accompanied by a strong impulse; this phenomenon was observable, not only in the carotid and large arteries, but even in their minute ramifications, thus it was very apparent even down to the ends of the fingers. His pulse was full, hard, and intermitting, 88 in the minute. On comparing the pulse at the wrist with the pulsations at the heart, the interval between them was much more marked than in health; the frequency of the pulse was not altered by change of posture."

With reference to these phenomena, Mr. Newton subsequently remarks:—

"On opening the pericardium, the heart was found enormously increased in size, this enlargement was principally at the left ventricle, the parietes of which were very much thickened, the cavity was not much larger than natural, the right ventricle was dilated, and its parietes slightly hypertrophied, the auricles were healthy, no valvular disease could be detected either in the heart or arteries, there was a very slight ætheromatous deposit in the aorta immediately beyond the semilunar valves. The arteries of the neck, chest, and abdomen, presented no lesion of structure.

"It is difficult to account for the bruit in this and similar cases; no doubt it is a frequent, almost a constant* attendant upon valvular disease, yet it is not unfrequently found in cases where the valves are perfectly healthy, and in which no organic disease of the heart or arteries can be detected, either during life or on the most minute investigation after death. From the examination of a considerable number of cases during life, compared with the appearances observed on dissection, I have come to the conclusion, that a "bruit," when permanent and combined with other anormal cardiac symptoms, is invariably pathognomonic of organic disease.

"I shall not enter into the question, as to whether this remarkable phenomenon be attributable to spasm, as was supposed by Laennec, or be purely mechanical, as asserted by Dr. Corrigan; further researches are requisite to enable us to determine whether either of those suppositions be correct."

In the treatment of this case, after digitalis and various other remedies of high repute had completely failed, the hydrosulphuret of ammonia was used with great advantage as a sedative and palliative medicine. It was given in doses of from three to ten drops thrice daily in a glass of water. Mr. Newton thus meets some objections made to its use, and recapitulates the therapeutic qualifications he believes it to possess.

"With regard to the nausea which it produced when given in Sir Patrick Dunn's hospital, I cannot help supposing, that this was attributable either to its not having been sufficiently diluted, to its having been exhibited in too large doses, or to some error in its preparation; any of those causes will produce this effect.

"Whilst upon this subject, I may mention, that this medicine has been repeatedly

* In case of valvular disease, whether in the heart or aorta, the bruit may disappear when the circulation has been much lowered, but even in this case it can be easily re-produced, by causing the patient to make any exertion, such as walking across the room, or running up-stairs.

tried, both by Dr. Marsh and myself, in various diseases, principally cardiac and cutaneous, in all it produced a powerful effect in lowering the pulse, the appetite was increased, and also the secretion of urine; in some cases where it was not sufficiently diluted, it produced nausea, headach, and giddiness, these disappeared on omitting its use for a short time, and then giving it in a less concentrated form.

"From the trials which have been made of this medicine in cutaneous diseases, there is reason to hope, that it may be found to possess some value in the treatment of this class of complaints.

"In consequence of the tendency which the hydrosulphuret of ammonia has to undergo decomposition, it should always be recently prepared and kept in a dark place; when used, it should be given by drops, in preference to prescribing a draught or mixture."

SUDDEN RUPTURE OF THE HEART.

Dr. Townsend, an able pathologist, and the well-known translator of Andral, furnishes the next article, which is entitled, "Contributions to Pathological Anatomy," perhaps the most valuable of the many excellent papers with which the number abounds. As the nature of the essay forbids analysis or condensation, we must restrict ourselves to a very brief notice. The first and second cases described, are sudden death from spontaneous rupture of the heart. The remarks advanced on the duration of the symptoms induced by this accident seem to us exceedingly just, and calculated to dissipate much unfounded preconception relative to the cause of sudden death from cardiac ruptures. He believes, for example, that perforation of the heart, from whatever cause it proceeds, is generally followed by immediate death. Bertin states, that of ten cases of this accident, eight died instantaneously, and the other two after a few hours. The extent of hemorrhage into the pericardium cannot account for these fatal consequences, as the quantity of blood effused is often very trifling. The great and sudden shock which the nervous system sustains, is more probably the immediate cause of death. In some rare cases, death does not take place for several days after the accident. It is stated, that in these cases the perforation has been found plugged up with a coagulum of fibrine.

The third case is very singular. Death occurred suddenly with convulsions, and on dissection there was found a transverse rupture of the inner and middle coats of the ascending portion of the arch of the aorta. The quantity of blood effused in the ruptured parts did not exceed a teaspoonful. On this case Dr. Townsend remarks, that the rupture of the aorta was the only anatomical lesion to which the immediate cause of death could with any probability be referred,—that it is evident that this accident could not have preceded the fatal catastrophe many minutes, as otherwise the impetus of the column of blood projected by the heart, and striking directly against the cellular tunic of the aorta, must have protruded that yielding membrane into a pouch, as in the ordinary formation of false aneurism, or at least have detached it to some extent from its connexion with the middle arterial tunic, as in the remarkable case of rupture of the inner and middle coats of the aorta, related by Laennec, vol. ii. p. 700, where the blood insinuated itself between the middle and outer coats of the vessel, dissecting them asunder from the arch of the aorta to the bifurcation of the iliacs. In the present case, he adds, there was scarcely any effusion of blood, but the shock which the nervous system sustained from such an extensive injury of the circulating system, the central organ of which was previously in so very diseased a condition, is quite sufficient, he conceives, to account for the fatal consequences that ensued.

ANEURISMAL TUMOUR ON THE AORTA.

Dr. Townsend next describes an aneurismal tumour as large as a hen-egg on the anterior surface of the arch of the aorta, composed of a fibrinous coagulum, and situated between the *external* and *middle* coats of the vessel. The author thus describes the anatomical relations of the parts.

"On examining the arch of the aorta, a hard solid tumour of the size and form of a large hen-egg was observed on its anterior surface, near the origins of the left carotid and subclavian. On slitting up the aorta, it was seen that this tumour, which projected considerably into the anterior of the vessel, was situated between the outer and middle coats of the artery, both of which appeared perfectly sound, and showed no mark of any

solution of continuity. On making an incision into the tumour, it was found to consist of a solid mass of fibrine, of a pale yellow colour; its surface only being stained with the colouring matter of the blood. It was evident, therefore, that this tumour was formed of a coagulum of blood, and was situated between the external or cellular, and the middle or fibrous arterial tunics.

"Its presence in such a situation could, I conceive, only be accounted for on the supposition of its being caused by hemorrhage from the vasa vasorum, which are usually of considerable size in that neighbourhood. It certainly could not be considered as an instance of a spontaneous case of aneurism, as, though the aorta was slit open and examined most carefully, no trace could be found of any communication having ever subsisted between the cyst and the interior of the vessel."

TUBERCULOUS MASSES IN THE LEFT AURICLE.

The last case related is of like rarity with the others. Death supervened from asphyxia, caused by large tuberculous masses developed in the parietes of the left auricle, compressing the trunks of the pulmonary veins, so as to reduce their diameter to that of a crow-quill, thereby preventing the return of the blood from the lungs.

Dr. Townsend thinks this case worthy of record, as it serves to illustrate a morbid condition of the heart and lungs of extremely rare occurrence, and likewise as exemplifying a pathological fact, which he has had repeated opportunities of observing, namely that a *permanent organic lesion* may give rise to symptoms of a *remittent* or even of an *intermittent* character. In this instance, the mechanical obstruction to the pulmonary circulation, and the consequent congestion of the pulmonary tissue, must have opposed a constant obstacle to the due aëration of the blood, and yet the symptoms of distress were only felt occasionally, or at least were greatly aggravated at intervals. In like manner, he states that he has known aneurism of the abdominal aorta distend the nervous filaments of the solar plexus to such a degree, as to lacerate several of them, and yet the pain experienced in this case occasionally intermitted for whole weeks together.

The last original paper in the number is a description of a case of collapse after parturition, in which cold aspersion was employed with the most marked benefit, by Mr. Hayden, of the Anglesea Dispensary. The aspersion was made with a hearth-brush dipped in a basin of cold water, and shaken suddenly and forcibly over the patient's face.

Journal de Pharmacie. No. IV. 18o. Année. Avril, 1832.

THE Pharmaceutical Society of Paris forms a striking contrast with the Society of Apothecaries of our own metropolis. The members of the first are ardent in the cultivation of the branch of science to which they are attached, whilst the latter are almost entirely absorbed with the important concerns of the counter and the till. The Parisian pharmacopolists are also anxious to diffuse as wide as possible the knowledge and benefits of the researches which they unremittingly carry on, but the cockney triturators think only of the multiplication of certificates, and the consequent jingling of students' guineas. By an immense stretch of liberality, indeed, they have at last brought themselves during the summer months, to open for the benefit of medical students generally, the Botanic Garden which was intrusted to their keeping by Sir Hans Sloane. What unrivalled consciousness and self-denial, to give to the public what was originally designed for them, after a silent monopoly of more than a century!

HYDROGEN ACID AND THE CYANURETS.

Taking up the number for April of the Parisian Pharmacien's journal, we were attracted by the first paper, which is by Monsieur Pelauze, upon the transformation of hydrocyanic acid and the cyanurets into ammonia and formic acid. He details a number of appropriate experiments, and endeavours to establish the following corollaries, which are worth the notice of our pharmaceutical chemists.

1st. That the hydrocyanic acid is transformed into ammonia and into formic acid, by the action of the hydrochloric and sulphuric, and by other acids.

2d. That the cyanuret of potassium submitted in concentrated solution to the action

of heat, is changed into ammonia and formate of potass.

3d. That the same formed at a high temperature and under the influence of an excess of potass, yields hydrogen, ammonia, and a residue of potass.

4th. That a proportion of cyanuret of mercury on acting upon a proportion of hydrochloric acid, gives a proportion of hydrocyanic acid, and a proportion of perchloride of mercury.

5th. That an excess of the hydrochloric acid produces with the same cyanuret a double chloruret of ammonia and of mercury, formic acid, and very little prussic acid.

6th. Finally, the formate of ammonia soumis to the action of heat, is converted at 180 degrees into water and hydrocyanic acid.

After this well-written article, "Reflexions sur les Causes de Cholera Morbus," by M. Nicole, follow, in which the writer adopts the views of animate contagion entertained by Linnæus, and more fully dilated upon by our talented countryman Dr. Neale.

RESINS OF JALAP AND SCAMMONY.

The third paper consists of a memoir by M. Planché, upon the mode of distinguishing the resin of scammony from that of jalap and convolvulus arvensis, soldanelle or bind-weed.

"The resins of jalap and scammony, too often confounded in medical practice, merit to be distinguished as much on account of their manner of acting on the animal economy, as on account of the phenomena to which they give birth when in contact with chemical agents. For example, the resin of jalap is soluble in alcohol, and insoluble in ether. It is dissolved cold in nitric acid without disengagement of nitrous gas; whilst, on the contrary, the resin of scammony is soluble both in alcohol and ether, and dissolves itself in nitric acid, with the production of nitrous vapour. The resin of soldanelle deports itself with these three agents nearly in the same manner as that of scammony, and although the smell and taste are very different in these two resins, and scarcely permit their being confounded, a young physician has remarked to me, that the characters which I have selected are not sufficiently prominent.

"However little foundation this objection may have, I have attempted by new experiments to remove it, and after several trials, I hit upon the following means of diagnosis.

"Pure milk from the temperature of 10 degrees above 0 on the centigrade scale up to the boiling point, *divides perfectly, and holds in suspension, the resin of scammony.*

"Under the same circumstances, pure milk brings together, and unites into a mass, the divided molecules of the resins of soldanelle and jalap. In this instance two results are produced; first the discovery of an excellent criterion for the resin of scammony, which enables the inquirer to decide, upon the instant, whether this resin be adulterated with that of jalap or bindweed; and the second result is, the attainment for the scammony of a vehicle of which the savour is generally pleasing, and which may be sweetened or aromatized according to the taste of the patient. The following formula I think a convenient one; it affords an excellent dose in obstinate constipation, especially in women. Take of resin of scammony of its natural colour or decolorated with animal charcoal *eight* grains; white sugar *two* drachms; eau distillée de Laurier cerise *three* minims; cows milk hot or cold according to the taste of the patient *three* ounces. The scammony is reduced to powder by trituration in a mortar. The milk gradually added, and finally the sugar and aromatic water."

NEW MODE OF OBTAINING CHLORINE.

Mons. Tourtois communicates an expeditious method of obtaining chlorine. The following are the proportions of mixture adopted by Mr. Chevalier:

300 grains of *marine salt.*
100 grains of *deutoxide of lead.*
160 grains of *sulphuric acid.*
water q. s.

"These substances, states M. Tourtois, being mingled, the following reactions occur. Reasoning on the hypothesis that the marine salt decomposes the water, the deutoxide of lead is reduced to the state of protoxide; of the 10.40 grains of oxygen which it contains, it loses 3.46, which finding the hydrochloric acid set at liberty by the sulphuric acid, decompose it, take away 0.43 grains of hydrogen, and set free 15.30 grains of chlorine. The two last quantities united give 15.73 grains of hydrochloric acid, which are far from representing the whole quantity included in the 300 grains of marine salt, since there are in that salt 160.95 grains. The atomic theory of proportion, therefore, demonstrates that the quantity of salt employed is too great, and that it ought to be reduced so that the exact quantity of chlorine required should be ex-

tricated, that is 30 grains, which would produce just 15.73 grains."

By another calculation M. Tourtois shows, that the quantity of sulphuric acid, as indicated by M. Chevalier, is too small to decompose entirely the marine salt, and to unite itself to the oxide of lead. And he concludes by proposing the following formula,

300 parts of *deutoxide of lead.*
100 parts of *marine salt.*
160 parts of *sulphuric acid.*
5500 parts of *water.*

"SACRED BOTANY."

The original communications are concluded by a talented paper, by M. J. J. Virey, styled Pharmacon Hiéron or Sacred Botany.

He arranges the several botanical substances applied to the purposes of religious culture, under four heads.

1. Sacred perfumes, the writer states, were originally employed to purify the atmosphere of the ancient temples, from the impure emanations which arose from the occasional assembling of large masses of people; and above all, from the sacrifice of animals at those times. The incense which was first used for this purpose was the produce of a tree which is very common in India at this day, the *boswellen thurifera.* Another terebinthine plant, the chloroxylum dupoda procures equally an odorous resin, used in the same manner as olibanum, in the pagodas of Hindostan. The writer enters into a pretty minute and highly interesting description of the various odoriferous resins used for religious ceremonies at different ages, and in different countries of the world. This research is, perhaps, no otherwise useful to the medical inquirer, than as tending to enlarge his views as to the mysterious agency of medicinal substances, and to disabuse his mind from the ordinary belief, that the operation of medicine, because taking place under our eyes every day, is easy of explanation. Nothing is so injurious to the progress of our art as the mental satisfaction arising from such deceptive associations.

2. Aromatic woods were also much employed, in oriental temples especially. By the perfume arising from these it was believed, that eminent curative effects occasionally resulted.

A peculiar holy water, distilled from cannella and other aromatic trees, is employed in the Lamaic temples of Thibet.

The priests of ancient Egypt burnt cassia cannella, and cinnamon, in their places of worship. It was thus that the phœnix, the emblem of the sun, was resuscitated from the ashes of its nest formed of these perfumed barks, and the apotheosis of princes and heroes in ancient days took place in the sight of the people, from the bosom of their funeral pile, when these odoriferous woods were consumed.

At the time of the conquest of America, the guaiacum was employed as a perfume in all the temples of the sun at Cuzco. And the name, *palo santo* or *holy wood*, is retained to this day by the Spaniards.

3. Narcotic herbs were likewise much resorted to by the prophets, sybils, and conjurors, of the heathen world. By the abuse of these substances an intoxication was produced, which passed with the ignorant then, as madness does now with the Moors, for inspiration.

It is thus that the *hassich*, or the leaves of hemp of which the smoke is inhaled, excites a holy drunkenness amongst the true believers of Islamism, and makes them rush to martyrdom. It is said that the term *assassin* is derived from the word *hassich*, because the fanatics exalted by its vapours were prompted to suicide and murder.

4. Of sacred plants, one of the most anciently celebrated, is the famous *ficus religiosa*, which bends its branches towards the earth; these branches again taking root, form thus natural arches of foliage under which the innocent Brahmins, who live on vegetables only, are sheltered. They have as great a horror of shedding the blood of animals as of man. In *Genesis*, the passage stating that God clothed Adam with fig-leaves, appears to be an allusion to the primitive kind of life in the forests of India, the first cradle of the human race.

The Sanscrit poets make allusion to an equally celebrated tree, the *plas* or *palasa* of Hindostan, which serves as a principal ornament to *Crishnagar*, one of the divinities of the Hindoos. This is the *butea frondosa*, a tree of the family Leguminosæ, with long blood-coloured flowers, which deter the

timid natives of India from wounding it, by exciting a belief that it is endowed with sensibility. Its red astringent juice is a sort of kino.

According to the Brahmins, the nymph *Fulasi* has been metamorphosed into a species of plant, as in the Greek mythology of the transformation of Daphne into a laurel. The *ocymum sanctum* is dedicated to Vishnou, and his worshippers chew every day the stomachic leaves of this plant to facilitate the digestion of the simple vegetables which constitute their diet.

The Celts and the Gauls had also their consecrated trees. Amongst the Druids in Mona and Armorica, the *verbena* officinalis was held in great veneration, for it yields a balsamic odour. Virgil also alludes to this plant, Eclog. viii. 65.

Verbenasque adole pingues et mascula thura.

Finally, the above flower, almost sacred amongst the ancient Egyptians, as well as amongst the Hindoos, was the aquatic *lotos*, upon which, according to these people, creative power was first exercised. These flowers are of two kinds: the *red*, which flourish in the waters of the Ganges, and are worshipped as the cradle of the divinity fecundating nature, and from which it is said emanates all generative power, as Venus rose out of the bosom of the waves by the influence of the solar rays. The other lotos is that of the Nile, it is the *nymphæa cærulea*, and is often represented upon the Egyptian monuments. It adorned the head of Osiris, or was plaited into a crown for the brows of kings and priests, or appeared like a *blue* rose in the hands of their divinities. The seeds and roots of this plant being highly nutritive and refrigerant, excited still greater veneration for this plant.

We have thus been rather liberal in our draughts from the *Pharmacon Hiéron*, for we are convinced there is a much closer connexion than is generally supposed, between ancient superstition and modern medicine. The medical inquirer, who pries with sufficient acuteness into these subjects, will find that many of these seemingly ridiculous observances are founded on correct observation, and that when abstracted from unessential circumstances, they may be happily applied to practice in medicine. It is not meant to recommend an indiscriminate deference to the written or traditional aphorisms which abound in the teaching the influence of external agents on the human body, but merely to deprecate a passive conformity with those arbitrary classifications of remedies, when facts which are impossible, and analogies incredible, are assumed as data. It is certain that a leaning to the side of credulity in the efficacy of mechanical agents, is likely to have a more favourable effect upon the mind than a tendency to scepticism; for the first temper of mind is adapted to the candid reception of facts, while the latter checks all inquiry, through the influence of a dogmatic presumption.

THE LANCET.

London, Saturday, May 19th, 1832.

One of those farces denominated the "annual hospital dinner," was performed on Saturday week at the Albion Tavern, Aldersgate-street, by some of the gentlemen connected with Saint Bartholomew's, in the animated atmosphere of Smithfield. The repast was abundant, the wines rich and high-flavoured, the company tolerably numerous, the songs good, but the speeches—oh! the speeches!—"flat, stale, and unprofitable." But let them pass; though we scarcely can withhold a remark or two upon the glumpy and sombre appearance of Mr. Flint Stanley, when, on the toast of "the lecturers" being given, the Little Cock-sparrow sprang upon his perch, and chirruped his thanks to the amusement and edification, doubtless, of his auditors. This display sadly discomfited the unfortunate Mr. Stanley, who, until that moment, had considered that *he* was the most important of the lecturers, and ought to have thanked the company for the honour conferred upon himself and his colleagues. Deprived, however, of the opportunity of displaying his eloquence, he concentrated his wrath

against the cock-sparrow, by exclaiming to a friend on his left, "As Earle delivers *gratuitous* lectures, he thinks he's entitled to make gratuitous *speeches*."

We have on several occasions reprobated these "annual" exhibitions of folly and imbecility on the part of their managers. Public dinners, of all assemblies in the world, are the most unsociable, unintellectual, and unentertaining, unless the proceedings be conducted by men of decided ability and commanding eloquence. What, we would ask, is to be gained by hearing such speeches, such twaddling trash as was uttered on Saturday week at the Albion Tavern? All running thus:—

Sir and Gentlemen,—I feel extremely grateful for the honour which has been conferred upon me. This is the happiest moment of my life. Nothing can afford me higher gratification than such testimony (Yes; in salmon and lobster sauce!) of your approbation. The school of Bartholomew's has sent forth some of the greatest geniuses that medicine ever produced. We *had* an Abernethy, we *have* a Lawrence, ("So has the College!" exclaimed a wag at the bottom of the table,) and by the constant discharge of our duties to the patients and to the students, of whose *substantial* interests we are never unmindful, we hope still to preserve the reputation of this renowned establishment.

Mr. Chairman and Gentlemen,—I have nothing more to say at present, except in once more returning my very grateful thanks, and drinking all your very good healths.

However, we might have overlooked the stupidity of the scene, had not the first toast furnished us with a kind of index to the motives which influence *some* of the conductors of these make-baits for students. Who, gentle reader, think you was in the chair? Mr. Pennington, the ex-apothecary of Keppel-street,—medical attendant for many years to all the influential, ultra, rotten-hearted Tories resident in the north-west district of the metropolis. The selection of such a man for such an office, at this juncture of public affairs, indicates very bad taste, if not the influence of a strong political motive, and *that* motive one which ought to be detested by the whole body of young gentlemen educating for such a profession as that of medicine. Mr. Pennington is well known, in his circle, to be an ultra-Tory; hence it was in perfect keeping with that character that the first toast from the chair should be "*Church* and King!" On hearing such an announcement many of the students remained on their seats, and others were observed to turn their glasses upside down, while the *clique* vomited forth their hollow-hearted cheers. On Saturday week the name of William the Fourth was warmly cherished in the affections of the whole of his people; at that time his promise to purify the constitution of this country remained in its full force; hence the monarch was beloved by all, and by none more ardently than the young men of England. But it would have been deemed disloyal by Mr. Pennington, and his right-hand supporter, Mr. Alderman Lucas, to go through the ceremonies of a public dinner, without proposing the health of his Majesty. True, there was a double object—the support of *the monarchy*, and the insult of *the King*. Thus while the *crown* was upheld, *his Majesty* was introduced to the notice of the company under the sanction of the bigoted, Tory-engendering, law-established *Church*. Now we would appeal to Mr. Pennington and his enlightened party, whether, as honourable men, they can reflect with satisfaction upon the conduct pursued by them on this occasion. Independently of the badness of the example, can it be supposed that young gentlemen, who are now conversant with the politics of medicine, can be unmindful of the persecutions inflicted upon them from the ascendancy of

Tory principles? The whole of our old medical institutions are conducted under Tory forms of government, and there is not one of them which holds out a reward for merit, unless it be the merit of sycophancy or intrigue. The College of Physicians is a Church-and-King establishment, the Apothecaries' Company is another institution of the same stamp, and the College of Surgeons is the worst of the three. It presents a perfect model of the Church-and-King system of government. We hope and believe, that the gentlemen now attending our medical schools are not so insensible of the disadvantages under which their predecessors have studied, as to be induced to feel any kind of reverence for the almost exploded toast of "Church and King." During the long period when the High-Church party was in the ascendant, what laws were enacted for the benefit of our profession,—what laws, indeed, sanctioned by *that* party, with a view to benefit any really liberal profession? Referring to events for instruction, we find that the Church-and-King conclave lost no opportunity of raising obstacles to the progress of knowledge generally, and with respect to the cultivation of the science of medicine, in what instance have they attempted its advancement? The members of the High-Church party have ever been notorious for insolence and narrow-mindedness, and have never held out a friendly hand to talent unless with a view to pervert it to the darkest purposes. Under the long reign of Toryism, our public chartered schools have been allowed to slumber in a state of the most criminal inactivity. By the parliamentary returns, it is quite clear that these institutions possess sufficient funds for affording a classical education to the entire youth of this country, and yet with such a power at their disposal, to what ends have the Tories—the real Church party—employed it? The splendid structures built by our generous and well-designing ancestors have been allowed to crumble into ruin, and the funds deposited for their support and for that of their children, designed to be instructed in them, during several generations of misrule have been squandered on rapacious aspirants to place and power. If the conditions of the charters of our public schools had been strictly complied with, would not medical learning in England have far exceeded its present point? Would such a charter as that of the College of Physicians, or that of the College of Surgeons, still exist; or would an "Apothecaries' Act" have passed in the spring of 1815? The details of Church-and-Tory practices have been equally odious with the principles inculcated by the most hateful fanatics in the dark ages. We marvel that even Mr. Pennington,—Lord Eldon's apothecary, could, in a company of gentlemen consisting principally of medical students, pronounce the words "Church and King" without a blush, recollecting as he must the abuses which had sprung up when Toryism was in its ascendancy—abuses which still exist, because the branches of that system are not wholly destroyed. If there had not been many series of Church-and-King governments, would pupils who seek for public instruction in a public institution have been made to pay immense sums to enable them to pass the bare thresholds of those establishments? But the splendour of Toryism is displayed in the trappings of office, and the glitter of gold. Weight of intellect in a *Tory* scale ever kicks the beam when it is opposed to a weighty *purse*. Considerations relating to intellectual acquirements are as nothing when placed in competition with the possession of wealth. Thus while the Church-and-King party flourished and succeeded in obtaining an extent of political and hierarchical power never yet equalled, the science of medicine remained stationary; or if improvements *were* made in that branch of knowledge, they resulted rather from the

extraordinary exertions of individuals, than from the labours of corporations acting under the sanction of government. This toasting of "Church and King" at a public medical dinner, is one of the numerous attempts daily made to keep the public in the dark, for the motto for the Tories is this:—"Improve not in the arrangements of your civil and political institutions, even should you by any *misfortune* improve in knowledge." They have ever said to us, "You may perceive the light, but you shall not be guided by it:" accordingly, not only are the imperfections produced by time sanctioned by legal recognition, but attempts made to tolerate abuses of modern growth by referring to others of a grosser character, but of a more ancient date. While these things were in progress, what was the toast received with the greatest acclamation at all the great public dinners? Why, that of "Church and King." But as the public became more enlightened, and the intolerance of the clergy became more apparent, and consequently more odious, the bumpers were quaffed to the toast of "*King*" only, and this was generally the case towards the conclusion of the reign of GEORGE the FOURTH. Even at the Bartholomew's dinners, if we are correctly informed, the toast embraced the monarch only, but *then* (on Saturday week) when we had a Sovereign who had apparently remained firm to his pledges of *reform*, and who by those pledges had proclaimed himself the friend of a just system of government and liberal institutions, it was deemed by Mr. PENNINGTON and the Stewards, a fit occasion to insult the ears of the pupils by proposing, as a toast, "*Church* and King." Of course the circumstance itself is almost unworthy of notice, but indicating as it does the feelings which direct the Tory party in all their movements, convincing us as it must of their desire of continuing abuses in all their forms,—of perpetuating pecuniary demands upon the students,—of increasing the number of fetters by which they are already clogged in their pursuits, we have deemed it worthy of this public reprobation. Nor are we without hope that the remarks here made will have the effect of inducing the company instantly to resent such an insult, should any Chairman—like Mr. PENNINGTON—be so indiscreet or ill-intentioned as to propose, at another public dinner of medical students, a toast which we suppose is now seldom heard except within the cloisters of Oxford. The Church-and-King *system*, whatever may have been its advantages to the clergy, and to an hereditary nobility, has proved a terrible bane to the mass of the people of England, and a bitter curse to the members of the medical profession. Mr. PENNINGTON either knew this, or he did not. If acquainted with it, why was he guilty of hypocrisy so deep as to propose such a toast? If unacquainted with it, he was unfit for the office of President, and should have declined it in favour of his footman.

BARTHOLOMEW'S HOSPITAL.

DISEASED KNEE-JOINT—AMPUTATION.

WILLIAM SHEPHERD, twenty years of age, apparently of a scrofulous diathesis, was admitted into Luke's Ward last January, under the care of Mr. Vincent. The complaint, for which he claimed relief, was an enlargement of the knee-joint. He has followed the business of a shoemaker, and about two years since first had an affection of his right knee, which he could not assign to any particular cause. The disease gradually progressed, and the pain became distressing, shooting up the leg, the integuments retaining their natural hue. Upon this he went to the Middlesex Hospital, where he became an out-patient. The treatment adopted was the application of bandages. A gentleman then kindly took him into his house, and had a surgeon to attend him, who prescribed complete rest, and applied lotions and leeches. In January last he entered this hospital as above mentioned, with much swelling about the affected joint, and with his general health impaired by the local disease. The motions of the articulating surfaces upon each other were perfect, but attended with some pain.

The enlargement of the part became at length very considerable, particularly on the inner side, where it was hard and unyielding, and on the outer where the presence of fluid was indicated. Into this latter, therefore, Mr. Vincent made an incision, from which a copious discharge occurred. Within the last three or four weeks, genuflexion has been impeded, and productive of great disturbance. On the admission of the patient, cupping locally and fomentations have been had recourse to, and since that time the treatment has been very varied, but ineffectual; so that last week, finding the state of the limb becoming worse and worse, and operating very prejudicially on the system, Mr. Vincent determined to amputate the leg. The patient has had no cough, no swelling of the glands, nor any symptoms of pulmonary affection.

May 12. To-day the operation was performed above the knee, the leg being taken off at the lower third of the os femoris.

13. He is ordered *acetat. morphiæ, gr. ¼, hora somni, si opus sit.*

14. The patient's condition is favourable. No untoward circumstance has occurred since the operation. His bowels are open, and tongue clean. Pulse rather quick. His mind and body seem to have experienced much relief, as he expresses satisfaction at having been relieved from the weight of disease.

May 15th.—Patient continues much the same; is to have mutton chops daily.

To-day Mr. Stanley made an examination of the amputated member in the museum. Upon cutting open the knee-joint, the cavity was found filled with a thick puriform collection, after washing away which the articulating surfaces were examined. Here disease had been busily at work, and not in a very ordinary manner. The cartilage was in some places entirely absorbed, whilst in others, where it still remained, it was completely separated from the osseous structure. Instead of being as usual firm and adherent, it required but a touch to detach it, there being on the bone beneath it a reddish layer apparently of minute granulations. The surface of the patella exhibited the same appearances. The capsular membrane was generally thickened, and here and there inflammation had completely substituted a different structure. The manner in which the cartilages had been thrown off from the ends of the bone induced Mr. Stanley to imagine that the disease must have commenced there, although the pain had not been intense enough to support such an opinion. A section of the extremity of the femur was therefore made, but the interior of the bone exhibited nothing peculiar, nor of a scrofulous character, with the exception of a slight softening of its cancellous structure. The end of the bone exhibited a general enlargement, but the inner condyle presented no specific increase to account, as was expected, for the large protuberance on the left side of the joint, which appears to have been owing to some displacement of the parts from their natural position. The ligaments remained entire, but the patella was thrown outwards from its usual place, whilst the femoral extremity projected more inwardly.

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LIGATURE OF A NÆVUS MATERNUS.

William Giles, a child ætat. 2, was brought from the country by his mother, for the purpose of having Mr. Lawrence's advice on this affection. The little patient is in excellent health, and Mr. Lawrence recommended an operation. The situation of the "mother's spot" in this instance is on the upper eyelid of the left eye. External to the tarsus arises the tumour, which is circular, and about an inch in diameter; outer and under circumference being covered by the external canthus, and inner edge of the eyelid, which is [illegible] pressed down by it, but not so as to [illegible] vision. The swelling is subcutaneous, of a purple colour. It attained nearly its present size about twelve months after birth. Compression easily acts upon it, and violent exertion, such as a fit of crying, causes the tumour to swell rapidly.

15th. This morning Mr. Lawrence performed the operation. Were this a common tumour, he said, extirpation would have been very easy with the knife, which was, however, contra-indicated here by the likelihood of extensive hemorrhage, which he had witnessed in some cases even in putting in a seton for the cure of such excrescences. In addition to this, retraction of the eyelid from the wound was to be feared. The mode here adopted, therefore, was *ligature*. Taking two curved needles, strong silk ligatures were introduced through them. These two instruments were then passed through the tumour, which was thus marked out into three parts, and the silk being divided at the eyes of the needles, eight ends were obtained. The two extremities of the tumour were then tightly bound by four of these, whilst with the remaining two the middle portion of the nævus was tied; some degree of care being required in the latter proceeding, on account of the intimate union of the nævus at that part with

the inferior edge of the tarsus. Mr. Lawrence at first thought of using only one double ligature, but finally considered the method adopted as safest and surest in this instance. Judging from the cry of the little patient, the operation is not attended with so much pain as might be expected. He is now in "Faith."

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May 10.—Daniel Mease was admitted into Henry the Eighth's ward about six weeks ago, with formation of matter around the anus. He is to appearance a very healthy man, and states that he has been tolerably free from disease till five weeks before admission, when he first had pain about the region of the anus. After this succeeded shiverings, and other concomitants of such affections, but he has not been much depressed. Since in the hospital, the part has been leeched and poulticed; the collection of matter gradually increased, and at length "broke" just by [illegible] of the anal aperture. A copious [illegible] continually took place, the discharge very offensive. To-day [illegible] was "going round" for [illegible] examining the situation of the fistulous cavity, [illegible] lay it open immediately penetrated some [illegible] of the os coccygis, [illegible] ced, and a division [illegible] bistoury. Further discovered a sinus [illegible] of the first incision [illegible] i, and then descending [illegible] side; Mr. L. therefore [illegible] every part of the cavity with a probe-pointed [illegible] cision of the parts rendered difficult of access. The man bore the process unconmonly well, though it was apparently a very painful one.

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15.—The wound has been kept open, with a simple dressing applied. There is a good deal of discharge of a "laudable" character, the patient's bowels are open, and regular, and he appears very comfortable.

AMPUTATION OF THE FORE-ARM.

May 3. A boy, ætat. 13, was brought to the hospital this morning with a severe injury to the fore-arm, occasioned by a machine. There was a large lacerated wound, bleeding very copiously, and extending from near the wrist to within two inches of the elbow joint. Through the wound projected a large portion of the ulna, which was fractured in a very comminuted manner. The radius appeared to have escaped fracture, but the nature of the accident rendering amputation necessary, Mr. Lawrence had him taken into the theatre about two hours after his admission. Upon examining the state of the parts, it was found that the bone and integuments were sufficiently sound to admit of amputation below the elbow, which was therefore done by Mr. Lawrence by the circular method. Four or five arteries were secured, after which blood still trickled rather copiously, the origin of which was found to lie in the medullary arteries of both bones. Upon proceeding to form the stump, it was discovered that the end of the radius projected too far to admit of the flap being well drawn over it; the obstacle, therefore, was removed by means of Liston's bone-nippers. This instrument, however, was not so effectual or speedy in operation as was desirable, a circumstance which called from Mr. Lawrence the remark, that the handles were too short—that the addition of more length in that quarter would give a greater purchase, and more power might consequently be applied to the blades with the exercise of less force. Nothing has occurred to merit notice since the operation.

AMPUTATION OF THE ARM.

May 5. Another amputation was performed to-day, by Mr. Earle. The subject of it was a lad, Alfred Gunton, ætat. 14. He had been standing that morning in the street, with his arm round a post, and whilst in this position, a waggon came along, and before he could be aware of it, the limb was terribly crushed between the wheel and the post. Upon admission here, Mr. Earle saw him, and found the injury so extensive, and the necessity of immediate operation so obvious, that he deemed it desirable not to wait for Mr. Lloyd, who had been sent for, the boy being *his* patient. The lad was then taken into the theatre by Mr. Earle's desire, where he amputated the arm below the shoulder-joint. The head of the radius was found to be broken off, the elbow-joint severely injured, and there was also compound fracture of both bones of the fore-arm.—The patient is doing well.

The enlargement of the part became at length very considerable, particularly on the inner side, where it was hard and unyielding, and on the outer where the presence of fluid was indicated. Into this latter, therefore, Mr. Vincent made an incision, from which a copious discharge occurred. Within the last three or four weeks, genuflexion has been impeded, and productive of great disturbance. On the admission of the patient, cupping locally and fomentations have been had recourse to, and since that time the treatment has been very varied, but ineffectual; so that last week, finding the state of the limb becoming worse and worse, and operating very prejudicially on the system, Mr. Vincent determined to amputate the leg. The patient has had no cough, no swelling of the glands, nor any symptoms of pulmonary affection.

May 12. To-day the operation was performed above the knee, the leg being taken off at the lower third of the os femoris.

13. He is ordered *acetat. morphiæ*, gr. ¼, *hora somni, si opus sit.*

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WESTMINSTER HOSPITAL.

ŒDEMA OF THE LUNGS, WITH ANEURISM OF THE AORTIC ARCH.

Mary Anne Dent, a widow, 46 years old, admitted March 27th ult. She is a tall thin person, with dark hair, eyes, and complexion. She states that she has, for many years, been in service, and enjoyed excellent health until six months ago. The catamenia ceased about three months after an exposure to cold immediately subsequent to great exertion. She had cough and pain in the chest, with expectoration of tenacious mucus. About a month ago she spat blood, which was at first dark but afterwards florid. She has perspired much at night, and has lost appetite and flesh.

28th. Her lips and face are livid; laborious respiration; pulse feeble; extremities indicating lentor of the pulmonary circulation. The chest is pretty sonorous, and the râle sonore is evident almost on every phase of it, but more particularly at the base of the lungs, *A resonance amounting almost to pectoriloquy* was discernible in the supraclavicular region of the right side, and less remarkably on the left. Sputa copious, consisting of rounded yellowish masses, mixed with glairy fluid, and expectorated with difficulty. Heart's action *natural*, though feeble; pulse 86, *regular*. Skin hard and dry; sleeps indifferently.

29th. The patient was taken suddenly in the night with a sense of suffocation, and died in the course of a few moments.

Post mortem, 30 hours after death, in the presence of Dr. Roe, Dr. Edwards, and others.

The body was emaciated generally, but the right arm and side in a greater degree than any other part. The *head* presented no other morbid appearance than a slight serous effusion under the pia mater and into the ventricles; and the cerebral substance was perhaps a little softer than natural. In the *chest* the lungs were observed not to collapse on the admission of air. They were of a pale grey colour externally, and pitted on pressure. Some old cellular adhesions existed on the right side. On slicing the lungs, serum flowed copiously from the divided surfaces, which presented a sodden appearance, except in the centre of the left lung, which he paritated to the *grey* degree. In the lower part of the same lung marks of recent inflammation were evident, such as the florid red colour of the tissue. And in various parts of both lungs pus oozed out of the bronchial ramifications. The larynx was paler than natural, as was also the trachea, except at its bifurcation, where it was redder. There were two or three ulcerets penetrating through the anterior part of the trachea plugged up by coagula and communicating with a cyst formed in the adjacent cellular tissue. The bronchial tubes were filled with frothy sputa, and their inner tunic was of a good colour. At the root of the arteria innominata, and including part of the aortic arch, was an aneurism of the size of a small apple; it was circumscribed and filled with recent coagula, its sides were dense and tough as those of the aorta itself. It communicated with the channel of that vessel through an aperture as large or larger than a shilling. The arch was a little enlarged at this part, but the carotids and subclavians were of natural diameter, the coats of all the vessels were considered to be healthy. In the abdomen all the viscera were sound.

This patient was so short a time in the hospital that no opportunities were afforded to occasional attendants to discover any indications in the habits of the patient. There can be little doubt, however, that she exhibited that indisposition to motion and exertion of any kind which is characteristic of those patients having aneurism in any of the great vessels, and more especially near the heart. So universal indeed is this fact, that it may safely be considered pathognomonic. The influence of this dread of moving is manifest even in the instinctive actions, for the patient attempts to restrain the cough which is occasionally present, and to check the natural action of the heart by an effort of the will. In this case there is every reason to suppose the patient died of suffocation, which was brought on by this habitual resistance to the effort of expectoration. When this resistance was carried to a certain point, the effusion occurred and proved fatal very quickly.

NOTE FROM MR. SALMON.

Sir,—I committed an error in the case of Stricture of the sigmoid flexure of the Colon, which I transmitted to you for insertion, and which appeared in your journal of the 24th of March. I stated, when giving the particulars of the case, that "no examination of the rectum had ever been made," whereas it should have been, "no examination of the rectum, with the bougie, had ever been made." By inserting this in your next number, you will oblige, Sir, your obedient servant,

Fredleick Salmon.

May 17th, 1832.

CORRESPONDENTS, &c.

The obstacles thrown in the way of the custom alluded to by *Mr. R. J.* are almost innumerable, but we hope shortly to overcome them.

The letter of *Dr. Clanny*, the paper of *D. Harrison*, and the second lecture of *Mr. Salmon*, shall appear next week.